MYRMECIA

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THE COVER

The cover features *Octotoma championi* [Chrysomelidae], a leaf-feeding beetle imported to Australia as a biological control agent of lantana. The illustration, drawn by **Debbie Kent** of NSW State Forests, won 2nd place in the 1995 AES illustration competition at Tamworth.

MYRMECIA

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COPY DEADLINE FOR NEXT ISSUE

Material for publication in the August 1996 issue of *Myrmecia* should be in the hands of the Editor at the address below by **Friday 26 July 1996**. Submission in ASCII or uuencoded format to the editor's email address (fletchm@agric.nsw.gov.au) is preferred but submission on IBM-compatible floppy disk in a major word processing format, or by fax, letter or carrier pigeon to the address below is acceptable.

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SOCIETY PATRON

The Executive of the Society is proud to announce that the Governor-General of the Commonwealth of Australia The Honourable **Sir William Deane** AC KBE, has agreed to become Patron of the Society. His appointment will attract interest to the Society's activities and will enhance our public profile.

EXECUTIVE REPORT

MEETINGS

The Core Executive met on 15 February, 14 March and 11 April 1996.

NEW MEMBERS

We welcome the following new members to 1996 membership:

Elected 15 February 1996

Miss W AMORNSAK, Department of Entomology, The University of Queensland, St Lucia, Brisbane, Qld 4072. Weerawan is a PhD student at the above university.

Mr SW DIX, c/o Yandilla Park Ltd, PMB 52, Chowilla St, Renmark, SA 5341. (Full Member). Scott is an Entomology Manager at Yandilla Park Services involved in insect monitoring and control.

Mr RJ HALE, Department of Zoology, University of Western Australia, Nedlands, WA 6907.

Roderick is a Postgraduate Student studying communication and mating behaviour of gryllacridid crickets.

Mr SMZ HOSSAIN, Orange Agricultural College, The University of Sydney, PO Box 883, Orange, NSW 2800. Zamir is a PhD student at the above university.

Ms C LIAO, CSIRO Div of Entomology, GPO Box 1700, Canberra, ACT 2601. Chunyan is a new PhD student.

Elected 14 March 1996

Prof A RAMAN, "Parvathy", Flat #2A, 12 Brewery Rd, Madras 600 030, India (Full Member). Raman has research interests in the population and chemical ecology of plant feeding insects and the ecology and evolution of gall inducing insects and mites.

Dr TM WITHERS, Cooperative Research Centre for Tropical Pest Management, Alan Fletcher Research Station, PO Box 36, Sherwood, Qld 4075. (Full Member). Toni is a Post-Doc Research Officer with interests in host-finding behaviour of phytophagous insects, insect ecology, biological control and agricultural entomology.

Elected 11 April 1996

Ms L HAMILTON, 2/64 Limpet Cres, South Hedland, WA 6722. (Full Member)

Resignations from membership

(Received with regret)

Prof HE EVANS

Dr BA JENKINS

Mr A HENDERSON

Change of Address, Status or Title

(15 February 1996)

Dr PG ALLEN, Primary Industries (SA), GPO Box 1671, Adelaide, SA 5001 (correction of address)

Mr MGM AZAM, Department of Entomology, The University of Queensland, Brisbane, Qld 4072 (ex NSW)

Dr JWO BALLARD, Department of Zoology, The Field Museum, Roosevelt Rd at Lake Shore Drive, Chicago, IL 60605, USA (ex ACT)

Dr K DHILEEPAN, Tropical Weeds Research Institute, PO Box 187, Charters Towers, Qld 4820 (ex Vic)

Mr PL DOSTINE, 18 Gilbert St, Ludmilla, NT 0820 (ex NT)

Mr M GIBIAN, 7 Chwee Chian Rd, #04-11, Wing 1, Banyan, Singapore 119749 (ex Singapore)

Ms JL GREEN, Department of Entomology, The University of Queensland, Qld 4072 (correction of address)

Mr NW HIVES, School of Science, University of Ballarat, PO Box 663, Ballarat, Vic 3353 (correction of address)

MR SA HOOD, Department of Entomology, The University of Queensland, Brisbane, Qld 4072 (ex NT)

Mr MM HUNTING, c/o Pullen Court, Springvale, Vic 3171 (ex Vic)

Dr DA MACKAY, Biology, Flinders University, GPO Box 2100 Adelaide, SA 5001 (correction of address)

Dr SJ McDOUGALL, RMB 1718, Ginninderra Rd, Sutton, NSW 2620 (from Ms to Dr, Student to Full Member, ex USA)

Mrs A MIRA (from Mrs A de Mira)

Dr JE SEYMOUR, Dept of Zoology, James Cook University of North Queensland, Townsville, Qld 4811 (correction of address)

Dr AP SMITH, Austeco Environmental Consultants, 84 Brown St, Armidale, NSW 2350 (ex NSW)

Dr PJ SUTER, Dept of Environmental Management & Ecology, La Trobe University, Albury/Wodonga Campus, PO Box 821, Wodonga, Vic 3689 (ex SA)

Mr M TICHON, Abbott Agricultural Products Division, PO Box 304, North Ryde, NSW 2113 (correction of address)

Dr HM WALLACE, Dept of Environmental Management and Ecology, La Trobe University, Albury/Wodonga Campus, PO Box 821, Wodonga, Vic 3689 (from Miss to Dr, ex Qld)

Dr P WEINSTEIN, Public Health Section, Ministry of Health, PO Box 5013, Wellington, New Zealand, or: Dept of Public Health, Wellington School of Medicine, University of Otago, PO Box 7343, Wellington South, New Zealand (ex Qld)

(14 March 1996)

Ms D CHIN, 20 Ridgehaven Circuit, Leanyer, NT 0812 (ex NT)

Mr IG FAITHFULL, 5/30-32 Finlay St, Frankston, Vic 3199 (ex Vic, from Student to Full Member)

Mr PA FARRELL, P O BOX 5508, Bundaberg West, Qld 4670 (ex Qld)

Dr GR FRIEND, c/o National Parks Service, Dept of Conservation and Natural Resources, 250 Victoria Parade, East Melbourne, Vic 3002 (ex WA)
Mr PJ JAMES, Entomology Dept, University of Minnesota, 219 Hodson Hall, 1980 Folwell Ave, Saint Paul, MH 55108-6125, USA (correction of address)
Mr JR MILNE, Dept of Biology, Central Queensland University, Rockhampton (ex Qld)
Mr KR PULLEN, CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT 2601 (ex ACT)
Dr JL READSHAW, 40 Rosebery St, Fisher, ACT 2611 (ex ACT, from Full to Retired Member)
Dr D THACKRAY, 20b Swan St, Mosman Park, Perth, WA 6012 (ex WA)
Dr G WHITE, 11 Fourth Ave, Toowoomba, Qld 4350 (ex Qld)
Mr W WOODS, Dept of Agriculture, 36 Railway Pde, Midland, WA 6056 (ex WA)

(11 April 1996)
Mr IC BARRASS, Agricultural Registration Section, National Registration Authority for Ag. & Vet Chemicals, PO Box E240, Queen Victoria Terrace, ACT 2600 (ex Vic)
Mr NJS BEVERIDGE, 587 South Titirangi Rd, Titirangi, Auckland, NZ (ex NZ)
Mr MG CAIRNS, 4/25 Forster St, Heidelberg Heights, Vic 3081 (ex Vic)
Dr AP DEL SOCORRO (From Mrs to Dr)
Ms CG DITCHFIELD, 50 Beatrice St, Taringa, Qld 4068 (ex NSW)
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Address Unknown
Dr S GARNETT
Mr V PETTIGROVE

FROM THE MINUTES OF THE CORE EXECUTIVE

Registration forms for the Inaugural AES and New Zealand Entomological Society Conference to be held at Lincoln University, Christchurch, 22-27 August 1996 were distributed in the February issue of The News Bulletin. =

David Dall and Murray Fletcher have commenced work on the Scientific Program. Members of the incoming Executive will be invited to the first Council meeting as observers.

An AES Membership Survey was distributed to members in the February issue of the News Bulletin. Results of this survey will aid the Executive in planning future directions of the Society.

The Executive have received an excellent return from the Survey on the employment of entomologists which had been sent to organisations which employ entomologists. A final report will be complete in May and published in the August News Bulletin.

Following discussions with Tim Heard, Regional Councillor for Queensland, Peter Allen reported that nominations from Queensland were expected for the next AES Core Executive. Objectives of the current Core Executive, prior to change-over to the new Executive at the AGM in August are as follows: completion of the AES Operational Manual and 1995 Audit, reports on the Membership Survey and Survey on the Employment of Entomologists, and preparation for the AGM, Council Meetings and Joint AES/NZES Conference.

The AES now has a World Wide Web site under "Societies and Clubs"with information about the Society. It can be accessed at http://www.ex.ac.uk/~gjlramel/clublink.html.

Following nomination by **Murray Fletcher**, Editor of the News Bulletin, the Executive is pleased to appoint Mr **John Macdonald** as Assistant News Bulletin Editor.

Peter ALLEN — Vice-President
Gary TAYLOR — Honorary Secretary

The Australian Entomological Society Inc.

Notice of 27th Annual General Meeting

The Society's 27th Annual General Meeting will be held in Christchurch, New Zealand on 24 August 1996. An Agenda appears in this issue of *Myrmecia*. Members who wish to have additional items included in the Agenda for discussion at the 27th AGM need to provide the Secretary with details by **19 July 1996**.

Call for Nomination of Office Bearers and Councillors

The following Offices will fall vacant at the Society's 27th Annual General Meeting on 24 August 1996. Nominations for election should be made on the form provided and should reach the Secretary by 15 July 1996.

Vacant Office	Present Incumbent
President	Prof. RE Jones

(Professor Rhondda Jones was elected at the Society's 25th AGM in Adelaide in 1994 and is not eligible for re-election.)

Vice-President	Dr PG Allen
Secretary	Dr GS Taylor
Treasurer	Mr JT Jennings

(Vice-President, Secretary and Treasurer are eligible for election but are not standing for re-election)

Chief Editor	Dr PG Allsopp
News Bulletin Editor	Dr MJ Fletcher
Business Manager	Ms A Roach
Public Officer	Dr ID Naumann
Technical Editors:	Dr AN Andersen
	Dr AL Bishop
	Dr ID Naumann
	Dr AJ Wapshere

(Chief Editor, News Bulletin Editor, Business Manager, Public Officer and Technical Editors are eligible for re-election)

Regional Councillors

Queensland	Dr TA Heard	♫
	Mr GB Simpson	♫
	Dr C Reid	❸
New South Wales	Mr SL Doggett	❸
	Mr JH Hawking	❸
	Ms L Rodgerson	♫
Victoria	Dr R Coy	❸
	Ms N Endersby	❸
ACT	Dr GV Maynard	❸
	(vacant)	❸
South Australia	Mr WE Frost	♫
	Dr MA Keller	❸
Western Australia	Dr D F Cook	♫
Tasmania	Mr R Bashford	♫
Northern Territory	Mr CG Wilson	♫

❸ Eligible for re-appointment

♫ Not eligible for re-appointment

If only one valid nomination is made for any position, that nominee will be declared elected at the AGM. If more than one nomination is received for a position, a postal ballot will be conducted.

Representative Councillors

Ent. Soc. of Qld* Dr J King
Ent. Soc. of NSW* Dr AD Clift
Ent. Soc. of Vic* Mr P Carwardine

* To be nominated by the Societies

Gary TAYLOR
AES Honorary Secretary

The Australian Entomological Society Inc.

PROVISIONAL AGENDA
27th ANNUAL GENERAL MEETING

Lincoln University, Christchurch, New Zealand
Saturday, 24 August 1996

1. Opening and General Announcements
2. Announcements of Proxies and Apologies
3. Deaths of Members recorded since 26th Annual General Meeting
4. Minutes of 26th Annual General Meeting (Published in *Myrmecia*, November 1995)
5. Business arising out of the Minutes
6. Executive Annual Report, including reports of Vice-President, Treasurer, Business Manager, Chief Editor and Editor of News Bulletin
7. Report of the Conservation Committee
8. Competitions and Awards
   - 8.1 Ian Mackerras Medal
   - 8.2 AES Service Award
   - 8.3 AES Phil Carne Prize
   - 8.4 AES Research Grants
   - 8.5 AES Insect Illustration Competition
   - 8.6 AES Photographic Competition
9. Business arising from the 51st Council Meeting, Christchurch
10. Announcements of Office-Bearers and Councillors for 1997
11. Report of the Organising Committee, 27th Annual General Meeting
12. Report of the Organising Committee, 28th Annual General Meeting
13. Other business (arranged with the Secretary no later than 19 July 1996)
14. Close

Gary TAYLOR
Honorary Secretary

The Australian Entomological Society Inc.

Nomination of Officer or Councillor

I nominate . . . . . .

for election to the office of . . . . . .

Name of nominator . . . . . .

Signature . . . . . Date . . . . . .

I second this nomination

Signature . . . . . Date . . . . . .

I accept this nomination*

Signature . . . . . Date . . . . . .

*The nominee is requested to attach a typed statement, not exceeding 300 words, which includes the following: professional qualifications, address, institution, position held, fields of entomological interest, previous offices or appointments held in the Society; any other information which may be of assistance to members.

(A photocopy of this form may be used.)

The Australian Entomological Society Inc.

Appointment of Proxies

I, ...

of . . . . . .

. . . . . .

being a member of the above-named Society, hereby appoint:

. . . . . .

of . . . . . .

. . . . . .

as my proxy to vote for me on my behalf at the Council Meeting, Annual or Special General Meeting, as the case may be, of the Society, to be held during 22-27 August 1996, and at any adjournment thereof.

Signed this . . . . . day of 1996

(Signature) . . . . . .

(A photocopy of this form may be used.)

Obituary
Elaine Brough

It is with great regret that we record the passing of **Elaine Brough** on January 25, 1996. Elaine was an extension entomologist in the Queensland Department of Primary Industries, President of the Entomological Society of Queensland, and a founding member of the team that successfully established the CRC for Tropical Pest Management (CTPM). Born in Otago, New Zealand, Elaine trained as an entomologist in Australia, and then worked in the USA and Papua New Guinea before returning to Australia and Brisbane.

In the past 4 years, Elaine was a major player in the CTPM and was responsible for the unique element of incorporating a social science program within an otherwise technically based Centre. Through her active leadership of the Decision Analysis and Implementation program, Elaine demonstrated the importance of understanding social and community issues and incorporating them in the research process in order to achieve successful outcomes.

Elaine Brough

Working in the CTPM exposed Elaine to the same university environment in which she revelled earlier in her career in Melbourne and Papua New Guinea. She gathered around her a talented team of staff and students and was an effective leader and mentor. She contributed greatly to the public profile of the CTPM and had unswerving commitment to establishing it as an effective, permanent entity.

Elaine's natural abilities were well-suited to the collaborative research environment of the CTPM and being based there enabled her to enhance her international network of professional colleagues. Two of note were Dr **Agnes Gannon** of FAO and Dr **Ed Rajotte** of Penn State University; both scientists visited Queensland and participated in Elaine's study of information pathways.

To many farmers, crop consultants, and research and extension scientists, the problem specification workshops that Elaine facilitated will be practical evidence of her approach. Her facilitation skills were just another aspect of the breadth of her ability, which extended well beyond her entomological expertise. The results of her efforts in achieving this level of participation, and in showing us what cooperative research can mean in its fullest sense, will continue with the direction of the Centre and through activities of CTPM staff.

Elaine's compassion and generosity, and her willingness to always find the time to help others, will be enduring memories. Elaine's strong ideals, enthusiasm, and drive were infectious; for those who had the pleasure of working with her, these characteristics have provided an influence which will live on throughout their careers. Elaine's premature death cut short an active career in full flight. She will be remembered by many in many different ways, such was the extent and versatility of her contacts.

One of the results of Elaine's research with other colleagues has shown that success in improving pest management practices depends on the quality of the interaction between social and political factors on one hand, and scientific and technical on the other. At the heart of this interaction is the quality of the people involved and their relationships with each other. Elaine Brough was of the highest quality in her professional and personal life and will be greatly missed by her colleagues and friends throughout Australia and overseas.

Compiled by Staff of the
CRC for Tropical Pest Management
Brisbane.

SURVEY OF EMPLOYMENT OF ENTOMOLOGISTS IN AUSTRALIA, 1996.

The majority of members of the Australian Entomological Society are employed as entomologists, while student members presently in training institutions are considering their future in entomology. The future success of the Society is closely related to the employment of entomologists in Australia, and monitoring trends in employment is a legitimate activity of the Society.

The 1996 Survey

The survey was aimed at employers of entomologists; a list of employers was compiled from the Directory of South-West Pacific Entomology (1995; Australian Entomological Society Inc.) and further employers were identified by some respondents. For the purposes of the survey, an entomological employee is someone who occupies a position which requires entomological training or experience, and who calls themself an entomologist rather than, for example, a geneticist, agronomist or pest exterminator. Acarologists were included in the survey, as were administrators or managers closely associated with entomology. The survey also included unpaid and honorary staff. The survey method was by postal questionnaire.

Respondents to the survey were grouped according to their source of funds and nature of work. Analysis of the respondents is shown in Table 1. The response rate to the survey was 56%. Private employers included agricultural chemical companies and private insectaries. Government Agencies included grain handling organisations and statutory bodies. University Departments were kept separate, so that one university may have a number of separate departments who employ entomologists. State and Territory agencies included departments of agriculture/ primary industries, health, forests, lands, and conservation.

Changes in employment

Employment records from those employers able to furnish continuous records 1990-1995 are shown in Figure 1. Because it was difficult to equate employment classifications amongst different employers, (for example, there is little equivalence of research officers, both in salaries and qualifications, amongst institutions), all entomological positions have been bulked. These results show that the number of jobs has slightly increased during the past five years. There is also optimism amongst most employers that the

Table 1. Respondents to employment questionnaire

	No. of Institutes/ Enterprises in Sample	Paid Positions (Dec. 1995)	Honorary Positions (Dec. 1995)
Private	8	31.2	1
Federal Government	4	20.5	0
CSIRO	2	226	20
Government Agencies	4	10.3	0
Universities	12	40.9	10
State/Territory Govt	12	126.2	0
Museums	6	20.9	12
TOTAL	45	476	43

Figure 1. Employment Trend for Entomologists.

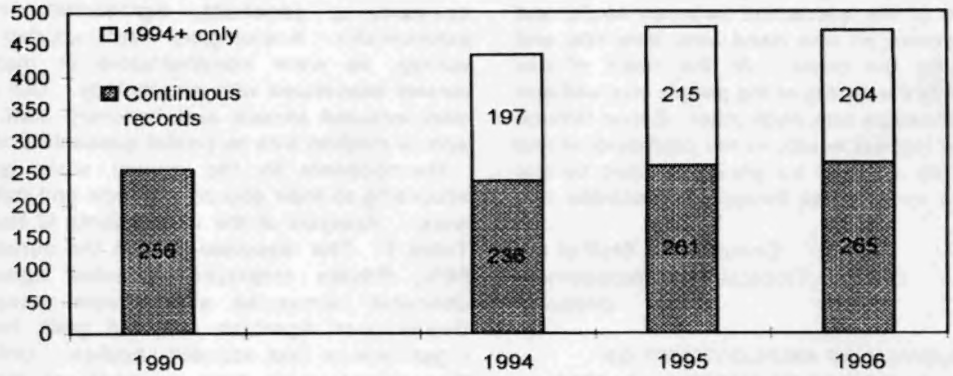


Table 2. Change in Employment of Entomologists by Category.

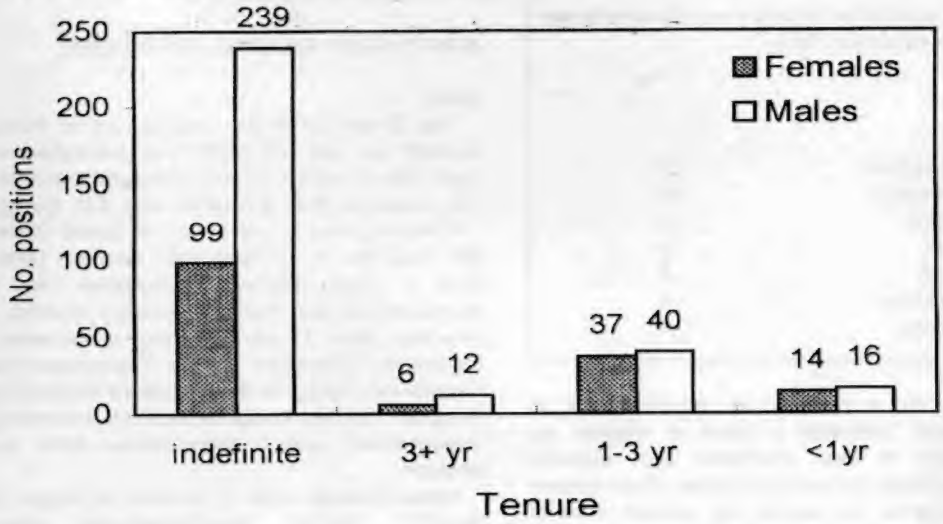
	% Change 1995/1990	% Change 1995/1994	% Change 1996 (expected)/ 1995
Private	+52	+19	+3
Federal Government	+1	+5	+15
CSIRO	na	+9	-5
Government Agencies	0	0	0
Universities	-12	-6	-5
State/Territory Govt	-3	+18	+2
Museums	-2	+7.9	-5

aggregate level of employment of entomologists will be maintained in 1996.

This optimism is reflected in the larger set of data available for the 1994-6 period (Figure 1), except that a slight contraction of aggregate employment during 1996 is expected by some employers.

A break-down into category of employer (Table 2) indicates that the greatest relative increase in employment of entomologists during five years was by private businesses; within this sector, the increase was in commercial insectaries and consultancies, rather than in the agricultural chemical industry, where the level of employment of entomologists remained relatively static. The relative increase of entomologists in Federal Government Departments is the result of expansion of a single agency from a low base. CSIRO divisions are expecting a slight contraction of staff during 1996, down from a modest expansion during 1995. University departments experienced a reduction in the number of entomological positions during all periods; this trend occurred with most departments who responded, and appears to represent a reduction in technical positions. Employment of entomologists by museums reduced over five years, with some changes in technical staff on short-term appointments. Some museums reported non-replacement of curatorial positions,

Figure 2. Tenure of Entomologists.



but non-replacements were balanced by new appointments in other museums.

Honorary positions

A number of organisations "employed" honorary entomologists, who numbered about 9% of the total paid work force. Honorary entomologists were mainly attached to research institutes, but one private entomologist listed themself as unpaid.

Gender and Tenure

The overall sex ratio is 1 : 2, female : male entomologists. However, the ratio of staff with indefinite tenure is 1 : 2.4.

Jobs in 1996: skills required

Employers were asked the minimum qualifications for jobs they have filled, or intend to fill during 1996, including those positions awaiting funding. The 44 positions represented about 10% of all entomological positions projected for 1996 and are indicative of the turnover rate of entomological positions. These may not represent strictly "new" positions, since some organisations re-appoint of existing staff to new jobs.

The minimum qualification required by employers in 1996 are mainly Bachelor's degrees (Table 3). Only 36% of new positions require post-graduate training as their minimum qualifications.

Table 3. Minimum qualifications for positions (n=44) to be filled in 1996.

Minimum Qualification	% Positions
PhD	18
MSc	18
BSc(Hons)	6
BSc	47
Dip	6
Cert.	5

The areas in which appointments will be made during 1996 are predominantly in primary industries (Table 4).

Conclusions

Data from the survey show the total number of jobs for entomologists did not vary greatly during the past five years, and is likely to remain this way during 1996. The majority of entomologists hold tenured positions with a reasonable expectation of employment until normal retirement. The indicative turnover rate of about 10% in 1966 suggests that there will be some opportunities for new entrants to the field.

Table 4. Proportion of positions (n=44) filled and to be filled in 1996.

Agriculture	59
Taxonomy	19
Medical	8
Urban	8
Forest	4
Behaviour	1
Ecology	1

The use by a number of organisations of honorary staff indicates a level of interest by entomologists in their discipline that extends beyond the desire for monetary gain. Employment of entomologists is largely by publicly-funded institutions, although perhaps not as much as indicated in this survey. The results may have been biased by the inability to contact a number of private employers during the survey. The main growth area was in private employment. These employers have mainly taken on staff with Bachelor's degrees in entomology.

The minimum training requirement for the majority of new positions in 1996 is a Bachelor's degree, although one employer commented that qualifications of applicants to these positions often exceeded the minimum qualification. One employer in medical entomology raised the question of competency standards for entomologists; the employer observed that graduates in public health, with little entomological training, were being appointed to entomology positions. The gender balance recorded in this survey will serve as a basis for comparison for future surveys.

Thanks.

Thanks employers, Department and Section heads, and overworked Human Resources people who responded to this survey; we hope you think the results were worth the (often) considerable effort required to furnish the data.

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REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

ANIC

The Checklist of the Lepidoptera of Australia, xiv+529 pp and CD-ROM was published on 18 April. The Checklist is multi-authored and edited by **E.S. Nielsen, E.D. Edwards** and **T.V. Rangsi**.

Following the appointment of **Geoff Clarke** to the Invertebrate Conservation position (effective from 1 July), **Graham Crompton** has been appointed to the Manager (ANIC) position also effective from 1 July. Graham is currently the Laboratory Manager of the Entomopathogenic Nematode Project in the Division's Biotechnology Program. Graham brings impressive entomological, management and communication skills to the position.

Ebbe Nielsen was an invited facilitator at the BioNET Pacific Biosystematics Network Formulation Workshop and then invited Divisional representative at the South Pacific Commission's Ninth Regional Technical Meeting in Plant Protection and First Meeting of the Pacific Plant Protection Organisation) to be held in Nadi, Fiji from 12-23 February.

Rob Floyd will be in Brisbane working on the cedar tip moth project 8 & 9 February, in Victoria visiting field sites 15 & 16 February and at Deniliquin on 19 February.

Roger Farrow is on long service leave till early March.

Se Pyong Kim retired from the Division on Wednesday, 31 January. Kim has been with the Program for over twenty years and his outstanding taxonomic illustrations have added immense value to many Divisional publications. Kim will continue his association with the Program having been appointed an Honorary Research Fellow to further pursue his interests in Lauxaniidae and he will keep his current office/telephone number for the time being. A farewell lunch will take place on Friday, 1 March.

Eva Bugledich is working on Zoological Catalogues with ABRS (tel: 250 9439) during the period 29 January-21 April 1996.

Eric Zurcher is currently working on the DELTA project with **Adrian Gibb** at RSBS. **Mike Hodda** has been appointed as a research scientist to work on nematode ecology and systematics effective from 15 January 1996.

Fiona Spier-Ashcroft has been appointed volunteer in the Soil Biodiversity Project (January-June 1996) working with **Penny Greenslade.**

Melissa Powell has been appointed volunteer in the ANIC Database Project (January-June 1996) working with **Steve Shattuck** and **Sita Narain.**

David Morris, Flinders University, has joined **Laurence Mound** as a CSIRO scholar during January and February, working on the systematics of gall-inducing thrips.

John Landy, Chairman, ANIC Board will visit 5 February. **Jasbir S. Mann**, a well-known cicadellid and chrysomelid specialist from India and former student of **Roy Crowson** visited the ANIC on Monday, 5 February. He was there for the day but he has immigrated to Australia and is currently living in Sydney and working at BCRI, Rydalmere with **Murray Fletcher.**

Dr R. Iwata, Nihon University in Japan, visited the Coleoptera Unit on Monday, 12 February, for two days only. He is a forest entomologist with interests in Cerambycidae, Bostrichidae, termites and termitophiles. He will be with **John Lawrence** or **Michael Lenz** in termites.

Furumi Komai worked on Australian Grapholitini with **Marianne Horak** from 21 February-31 March.

Don Sands visited from 11 March to Easter and from 14-20 April to write up his lycaenid studies. **Klaus Sattler** arrived from the BM in early March to take care of the gelechiids. **Hae Cheon Park**, Kyungpook National University, South Korea visited from 23 January-21 February to work on psyllids. **Andy Austin**, University of Adelaide, visited 5-9 February. **Ken Sandery**, Mackay, worked in the collection on moth identification during the first week of February. **Alan Clements** is a Visiting Scientist in the Program to resume his interest in the systematics of asilid flies. **Michael Schwarz** and **Stephen Rey** from the School of Biological Sciences, Flinders University, Adelaide, visited the Hymenoptera Section 24-26 January to look at bees and discuss social insects. Michael has established a group at Flinders looking at the evolution of social behaviour. At present they are particularly interested in arid country bees and thrips. Stephen has commenced post-doctoral work on the systematics of allodapine bees.

Effective from 1 March **Penny Greenslade** is working full time in the Soil Biodiversity Project. In addition to her previous duties Penny is now working with the CSIRO Division of Coal & Energy Technology on the use of Collembola for soil toxicity testing.

Anthony Reid resigned from the Program at the end of February. Anthony has been offered a full time post graduate position at the University of Canberra.

Lyn Umback, Atherton, who replaced **Paul Zborowski** while he was on leave, has left following Paul's return.

Peter Cranston's new PhD student, **Ian Wright**, currently of Sydney Water, visited to find how far his postgraduate scholarship would stretch in Canberra. Ian is going to look at biological classification of Australia's natural freshwater lakes. There are some northern hemisphere predictions (generalisations) about lake classification which already appear suspect for Australia (they are based on glacial history - Pleistocene, not Permian - so they are sure to fail). To this end, we are to visit a selection of southern Queensland lakes, some perched, some dystrophic, all 'pristine', over Easter, to get some initial information on benthic faunal composition.

The arrival of **Klaus Sattler** to deal with our gelechiids is imminent, and **Furumi Komai** has settled in again with the Australian Grapholitini. **Michael Braby** has started with the Pieridae and **Marcus Matthews** is in central Queensland feeding caterpillars to establish host relationships. **Ian Common** will be visited to finalise his second oecophorine volume.

ABRS

The Zoological Catalogue Vol 26, Psocoptera, Phthiraptera, Thysanoptera is with the publisher (authors **Courtenay Smithers, Ricardo Plama** & **Stephen Barker**, and **Laurence Mound**, respectively)

Keith Houston and **Steve Shattuck** attended the "Disseminating Biodiversity Information" Workshop in Amsterdam and visited the Natural History Museum, London. They demonstrated their new taxon-based databasing program, *Platypus* which was received enthusiastically. *Platypus* was designed for compilation of the Zoological Catalogue of Australia database, and for taxonomists to use in their every-day taxon based work. It is hoped that the program will be released in mid-year.

Glynn MAYNARD
Regional Councillor

NEW SOUTH WALES

NSW Agriculture
BCRI, Rydalmere

The first, perhaps of many, of our entomologists has taken redundancy and left the Department. **Graham Goodyer** was one of 14 staff who left at the end of March. Graham has decided he has had enough and will spend the rest of 1996 doing up his house and will be keeping his hand in finishing a few projects and helping the Taxonomy Unit to prepare for the move. **Martin Horwood** has also left (end of May) and will be moving to AgrEvo at Pennant Hills. We wish them both well in their new career directions.

The Taxonomy Unit has had considerable input into the design of the collections building to be erected at ARVC Orange and it is hoped that there aren't too many last minute changes to reduce cost and consequent effectiveness of the building. At this stage the building is planned to be finished by the end of November (yes, 1996!) so that the Collections can be moved over the summer period.

Meanwhile, life goes on.

Macquarie University

The Key Centre is up and running with some new recruits: **Mark Dangerfield** has been appointed to a Lectureship is an invertebrate ecologist with interests in the role of insects and other inverts in ecosystem processes. **Tony Pik**, a Professional Officer carrying out Rapid Biodiversity Assessments. We are delighted that **Alan York** has moved from Forestry to the Centre. **Aletha Cruse** spent a week in the Northern Territory collecting *Mastotermes* for her continuing studies on termite antimicrobial compounds and **Jim Macintosh** is finding some exciting immunopeptides in bull ants.

Ian Oliver and **Andy Beattie** have been invited to a variety of laboratories and systematics groups involved with the development of rapid biodiversity assessment (RBA) methods and will be visiting several research institutions and conferences in Australia, the UK, USA and Costa Rica. Their recent publications have generated sufficient enthusiasm to prompt the Centre's second Workshop on Rapid Biodiversity Assessment later this year. **Graham Ostler** has been working on the structure of soil mite communities using morphospecies under the watchful eye of **Glen Hunt**. The project to develop automated sorting and separation of invertebrates has taken off with frankly surprising early success. There is a long way to go but it is a fascinating collaboration between engineers, systematists and ecologists.

Finally, the Centre has been involved with the efforts to prevent the axe falling on Rydalmere starting with a personal approach to the Premier by **Paul Ehrlich**. Unfortunately the Premier's obvious admiration for Ehrlich (he held a State Reception for him) did not result in any perceptible changes.

Australian Museum

We have a new address: our post box has been discontinued and all mail should now be addressed to 6 College Street, Sydney, NSW 2000. **Max Moulds** will spend much of June in New Caledonia collecting insects on Mt Panie and nearby areas. **Judy Thompson** who has worked in the Museum's spider section for many years has left for greener pastures in North Queensland. **Mike Gray** has recently visited Europe examining spider types.

The Museum has recently acquired the Lepidoptera collection of the late **Lawrence Courtney Haines**. This immaculate collection comprises mostly material collected around Sydney over more than 50 years.

Department of Medical Entomology
University of Sydney at Westmead Hospital

Richard Russell attended the annual conference of the American Mosquito Control Association in April at Norfolk, Virginia, and presented a paper in a symposium on dog heartworm. In March he was invited to a workshop held by the Hawkesbury Nepean Catchment Management Trust to assist in the development of a set of guidelines for constructed wetlands for wastewater management - an issue of increasing interest and importance in Australia. In November last year Richard was recruited temporarily by the NSW and Victorian Health Departments to lecture at a joint state course on mosquito control held at Swan Hill in Victoria, and he is currently in the process of producing a coloured photo-atlas of the mosquitoes of southeastern Australia as a follow-up to his 'best-selling' manual which is now almost out of print.

Visitors have included **Gisli Mar Gislason** from Iceland who was visiting Australia in March as a

representative of his country to the RAMSAR meeting in Brisbane, and **Peter Whelan** from the NT Department of Health who spent a few days with us in April reviewing the arbovirus surveillance program in NSW. **Lisa Allchin, Rita Maroun** and **Lana Berghoffer**, microbiology students from the University of Sydney, spent several weeks at our lab learning how to isolate arboviruses from mosquitoes. **Elwyn Wishart**, who has recently replaced **Dhileepan** as Medical Entomologist at the Victorian Institute of Animal Science and is responsible for all things arbovirus in Victoria, spent one week in our lab examining all aspects of arbovirus surveillance in New South Wales.

Stephen Doggett, John Clancy and **John Haniotis** have been busy processing this year's crop of mosquitoes for arboviruses. To date, this year has been relatively quite on the virus front - a bit of a relief after last years huge Barmah Forest outbreak! And, speaking of breaks, Stephen has performed a spectacular double twist with pike (on a bike-not a diving board) to rearrange his nose which kept him quiet for a few days.

Cameron Webb and **Karen Willems** are continuing to be busy on their respective research projects. Along with Cameron and Karen, **Merilyn Geary** has also been stocking up for winter with the departmental tradition of excessive pizza and donut consummation during the quiet part of the mosquito year.

Steve DOGGETT
Regional Councillor

Australian Defence Force Academy, Canberra
University College
University of New South Wales

Alistair Drake and **Ian Harman** are continuing development and testing of their Insect-Monitoring Radar. With transport help from both the Australian Plague Locust Commission and the Australian Army, the first IMR and a wind-finding acoustic radar were installed at Longreach, Qld, airport in December 1994. Alistair and Ian enjoyed bicycling between motel, airport, town, and the Stockmen's Hall of Fame (for a civilised lunch) in the heat and dust while putting the hardware together. Ian returned in May for an upgrade, participating in an APLC locust survey with **David Hunter** en route. Software installation has been done mainly in the comfort of Canberra, via a modem. The second half of 1995 saw construction of a second unit, which was all boxed up and ready for air shipment to Texas (for use in a collaboration with US Department of Agriculture entomologists) by the Xmas break.

In April, Alistair and Ian participated in the stimulating Nicholson Centenary meeting in Canberra. Ian presented some initial observations from Longreach, of spur-throated locust migration, at the Australian Entomological Society's annual meeting in Tamworth in September. **Peter Gregg** and **Hugh Dingle** were welcome visitors to ADFA's "entomologists" during 1995.

With Alistair as supervisor, RAAF senior cadet **Michael Mastus** made a thorough and interesting analysis of insect concentrations in nocturnal wind systems for his major Honours project. This work made use of radar observations obtained by Alistair and his former CSIRO colleagues at Narrabri, N.S.W. between 1988 and 1991.

"The book" (Insect Migration: Tracking Resources through Space and Time. Cambridge University Press.) was finally published towards the end of 1995. The last editorial inputs had been made in February, when Alistair visited co-editor **Gavin Gatehouse** on his home ground (Bangor, Wales) for the first time, while on a trip to see family in Britain. Gavin and Alistair then returned to their more usual electronic forms of communication to co-author a chapter for the Nicholson Centenary volume.

NORTHERN TERRITORY

Department of Primary Industry and Fisheries
Northern Australia Quarantine Strategy

During his recent visit to Darwin, **David McAlpine** accompanied **Glenn Bellis** and **Andrew Moss** on a NAQS monitoring run to western Arnhem Land, Cobourg Peninsula and the Tiwi Islands. Glenn and Andrew emptied traps and bled chickens while David roamed the countryside in search of small flies. David's visit was not all fun and games as he then spent some hours putting names to specimens in the NAQS and Berrimah Entomology collections and answering all sorts of dipterous questions from local staff.

After years of conducting surveys for exotic nasties in the most remote parts of the NT, the NAQS team decided that it was time to have a look in their own back yard. A quick look around Darwin Harbour and surrounds revealed that nothing unwelcome had snuck in undetected.

In February, the inaugural broadcast of the Top

End Aboriginal Bush Broadcasting Association (TEABBA) Quarantine Radio Show went to air. Local announcer 'Smurf' hosted the talk-back style show with **Glenn Bellis** and **Andrew Moss** providing the technical details. TEABBA is a Darwin-based station that broadcasts to Aboriginal communities throughout the NT, and NAQS is using this medium to increase quarantine awareness in these communities. The show airs fortnightly, alternating between topics in plant and animal quarantine.

Glenn spent a day killing bees in Arnhem Land in March. The response was mounted because these bees had appeared in an area where they had never been seen before, prompting concerns that they may have arrived from overseas. Decked out in spacesuits, Glenn and **Kevin DeWitte** destroyed the hive and established that the bees were only local feral European honeybees (*Apis mellifera* L.). This species appears to be extending its range into Arnhem Land, much to the horror of local aboriginals who are used to getting honey from the native *Trigona* sp. and *Austroplebia* sp. bees which do not sting.

Department of Primary Industry and Fisheries NT Quarantine and Inspection Branch

Ted Fenner has been doing little else apart from producing reams of paperwork on papaya fruit fly. And we don't even have the thing yet.

He did attend a meeting for Interstate Quarantine in Adelaide during February where the Territory recorded two small victories. The group accepted a low volume fenthion treatment for mango fruit fly, which is more practical than existing treatments, and reduced the acceptable distance from a known infestation of melon thrips from 500km to 100km.

Stuart Addison of Kununurra visited Ted recently and they talked about matters of mutual interest, such as melon thrips and poinsettia whitefly. Oh to have been a papaya fruit fly on the wall.

Department of Primary Industry and Fisheries Entomology Branch

Stuart Smith returned safely from Rabaul to report that 90% of the cocoa crop he helped establish there had escaped the wrath of the volcanic eruptions last year. He seems to have caught the travel bug over there as he has now gone to Mauritius to continue work on his fruit fly eradication program. He promises to spend at least 2 months in Darwin when he returns from this trip.

Deanna Chin and **Heather Wallace** are still working on the biocontrol of palm leaf beetle using the eulophid parasitoid *Tetrastichus brontispae*. The project has been running for 12 months now and 2 separate populations have established themselves in groves of coconuts at Nightcliff and, appropriately, Coconut Grove.

Department of Primary Industry and Fisheries Rangeland Production Branch

Debbie van Rangelrooy recently attended a residential school in Wagga Wagga on an introduction to GIS. Apart from that, her main entomological involvement has been in setting up and checking papaya fruit fly traps in and around Tennant Creek. What on earth would a papaya fruit fly be doing in Tennant Creek? What on earth would ANYBODY of reasonably sound mind be doing in Tennant Creek? I suppose you can always nip across to Wagga Wagga for a bit of social life.

Department of Primary Industry and Fisheries Weeds Branch

The field experiment to end all field experiments ended inconclusively after herbicides were inexplicably (?) dumped across our site. Were all those leech and mozzie bites, scratches, heat exhaustion, mud, sweat, tears, sunburn and cursing for nothing? Yep!

Tim Heard from CSIRO in Brisbane visited for a few days to look at mimosa bud weevils, and his boss **Wendy Forno** dropped in twice on her way to Mimosa Steering Committee Meetings. **Marion Seier**, a plant pathologist from IIBC in Britain, came to look at our mimosa pathogen, and **Bertie Hennecke** then followed her to Brisbane to polish up his rusty knowledge. The first batch of *Diabole cubensis*, the diabolical new mimosa rust, is now corroding away in Bertie's shadehouse.

Grant Flanagan, in Brisbane with a bunch of Adelaide volleyball geriatrics, called in at the CSIRO Long Pocket Labs to study the latest mimosa pod weevil, *Chalcodermus serripes*. These big-noses have also safely arrived in Darwin.

Colin Wilson, accompanied by **Rachel McFadyen** of the Queensland Department of Lands (or whatever they are known as this week), visited West Timor to see how the *Chromolaena*

gall fly, *Procecidochares connexa*, was faring since its first release there last November. Establishment appears imminent, as many galls were found up to 300m from the release site. The big test is the approaching dry season. ACIAR have agreed to fund this project for a further 3 years.

CSIRO Division of Entomology/
DPIF Entomology Branch
Termite Group

Leigh Miller, **Matthew Hoschke** and **Mike Neal** now have data for a full year from all of their control plots which are designed to monitor foraging behaviour and distribution of *Mastotermes* in native forest. A preliminary look at the data indicates that the masses are indeed seething; inter- and probably intra-specific termite colony boundaries are remarkably fluid. Termites have destroyed more than 30,000 pine stakes (something over 12 tonnes) during the initial monitoring phase of the work, but will hopefully learn that there is no such thing as a free lunch when treatment with selected termiticides begins soon.

Professor Takuya Abe's team from Kyoto University spent some time collecting Termitidae for various isotope and DNA analyses. Among other things, they are looking at differences between xylophagous, grass- and litter-feeding, and soil-feeding termites. They hope to produce a phylogeny of (Miller's beloved) Termitinae based on DNA data. A non-cyclonic depression over Berrimah sometime during this dry season will probably indicate that his suggestion of a diphyletic group isn't supported.

CSIRO Division of Wildlife and Ecology
Tropical Ecosystems Research Centre

Ants!
They're up your shirt and down your pants,
They steal the food from picnic tables,
Chew their way through telephone cables,
And make their nests in indoor plants.

Tracey "Cyclone Winston" **Churchill**, otherwise known as Spider Woman, has joined the ant lab on CRC funds as part of the project on invertebrate indicators of biodiversity and ecological change. **Alan Andersen** (Ants!...), **Lynn Lowe** (grasshoppers), **Tony Hertog** (carabs and tenebrionids) and Tracey are looking at the distribution of their chosen taxa along the North Australian Tropical Transect (NATT) extending about 1,000km from the coast near Darwin to Kalkarinji in the Tanami Desert. Isn't anybody looking at the distribution of papaya fruit flies along the NATT?

Alan is collaborating with **Alaric Fisher** who is doing his PhD on the conservation significance and status of Mitchell grasslands. Alan is looking at the biogeography of and impact of grazing on the invertebrates.

Honours student **Ben Hoffman** is doing his project on the introduced big-headed ant *Pheidole megacephala* which has invaded Howard Springs, eliminating the native ant fauna.

Museum and Art Gallery of the Northern Territory

So much to collect, so little time. **Graham Brown** recently spent a week out at Kakadu National Park with **David McAlpine** looking for an upside-down fly. Somebody with a sense of humour told them they should look in a pandanus clump, so they did. Pandanus is defended by serried ranks of needle spines. Our gullible duo ended up flyless but with more scratches and spots than you could poke a tube of calamine lotion at. Graham did manage to find a few new species of tiphiid wasps on the Koongarra Uranium lease, and will be heading to Keep River shortly to look for more.

After suffering the symptoms of Giardia for the last week, Graham has considered applying to be the first recipient of the newly legalised euthanasia. Royal Darwin Hospital has been inundated with character references from Graham's friends and colleagues.

Territory Health Services
Medical Entomology Branch

April has brought the end of a particularly successful wet season for the control of salt marsh mosquitoes (*Aedes vigilax*). The low numbers have been due to a combination of early rains and the major increase in effort and expenditure in the helicopter control program. The hard slog by the senior technical officer **Gwenda Hayes** and technical officers **Ross Nowland** and **Barbara Love** is greatly appreciated. The most noticeable achievement was the marked reduction in Ross River virus notifications from 210 last year to 24 this year for the traditional peak period from December to February.

Peter Whelan has embarked on well-deserved long service leave until the end of July. **Brian Montgomery**, with the assistance of Gwenda, is holding the fort until his return.

Part of the successful bid by Peter for Territory Health Service "Growth Funds" has resulted in the recruitment of an additional technical officer. The Branch welcomes **Jane Carter** who is wasting no time in becoming acquainted with the job.

The Branch temporarily farewells **Janeece Madigan** who is leaving at the end of April for 12 months maternity leave. Both she and **Antoinette Montgomery** are expecting healthy, safe arrivals in May.

The recently completed 1994/95 annual report for the Branch is now available. Any person interested in obtaining a copy should contact the Branch direct.

Colin WILSON
Regional Councillor

S.E. QUEENSLAND

Queensland Museum

The recent round of ABRS grants have been kind to the staff of the Entomology and Arachnology sections. **Robert Raven** received a large grant for generic reviews of ground hunting araneomorph spiders and **Val Davies** and **Chris Burwell** received smaller grants for systematic studies of amaurobioid spiders and eulophid wasps respectively.

We have welcomed two new happy faces to our multilegged family. **Susan Evans** is **Chris Burwell**'s new assistant and **Kylie Stumkat** has been appointed as research assistant for **Robert Raven**.

Geoff Monteith is off to Cairns again in February to wind up this season's trapping in the wet tropics as part of his survey work for the Wet Tropics management Authority. He will rendezvous with **Harley Rose** and **James Walker** (University of Sydney) to search for more specimens of an exciting new burrowing cockroach located on the Hann Tableland. Its presence was first indicated by hundreds of chewed fragments of cuticle in porcine poo pellets.

Doug Cook has rediscovered the spectacular tessaratomid *Peltocopta crassiventris*. This large flattened yellowish bug (see plate 3 in Insects of Australia) feeds on the rainforest tree *Mallotus discolor* or white kamala. The bug was last seen in the early 1960's being only known from one tree in the beer garden of the Surfers' paradise hotel, long since demolished. The bug engendered numerous field trips to the popular waterhole in the days of **Tom Woodward**, **Fred MacDonald** and **Ray Kumar**.

The entomology collection room recently played host to 25 member crew filming part of an episode of the drama series "Fire" (Channel 7). A strange subplot sees one of the regular cast members "Spit" becoming enchanted by one of the entomology lackeys (even lower in the pecking order than **Geoff Thompson**) played by Genevieve Picot (who played the female lead in "Proof"). It goes to air as episode 6 in April. Long suffering Geoff Monteith supervised the whole shebang from 6 am to 6 pm on his birthday.

Christine Lambkin was awarded first prize and **Geoff Thompson** second in the inaugural scientific illustration competition of the Entomological Society of NSW. Christine and Geoff are running scientific illustration workshops on 11-12 May and 21-22 September.

Robert Raven has recently returned from spider gathering in the MT Isa region. **Chris Burwell** and **Rudi Kohout** with **Wolfgang Dorow** (Forschunginstitut Senckenburg, Germany) will be collecting in northern Queensland for two weeks in June.

Geoff Monteith has finally turned up a male of Australia's second and the undescribed species of *Sphaenognathus* stag beetle. This genus of large beetles is known from a species from the mist forests of Mt Lewis in Northern Queensland and many species from South America. The undescribed species is from the Blackdown Tableland and a second tableland in central Queensland. Geoff has also collected the larvae from both localities.

Our assumption that the phasmid *Acrophylla* is the longest insect in Australia (head and body length up to 27 cm) may be proved wrong. A member of the public has sent us a photograph of a giant phasmid clinging to the side of his mobile home near Ravenshoe on the Atherton Tableland. Beside it he has extended his tape measure to register 50 cm including its front legs and cerci. It appears it had-body length must be close to 30cm. Unfortunately the specimen was not kept but from the photograph it was sen to differ from *Acrophylla* in having very long cerci and cylindrical unspined legs. We reproduce the photograph here. Can

anyone tell us anything about this mystery beast?

Entomology Dept., University of Queensland

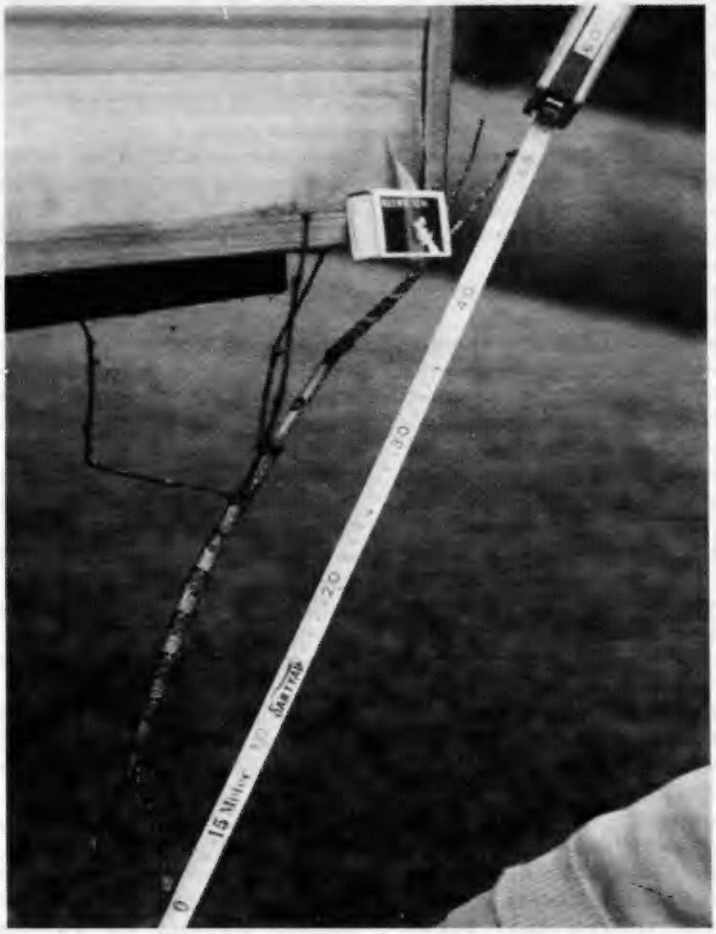
David Walter and **Owen Seeman** visited Far North Queensland in January to collect mites. Owen evicted 115 passalid beetles from their comfortable logs and de-infested them of mites while simultaneously offering free meals to countless leeches. David convinced thousands of mites to give their all for Science and come reside in St Lucia and also gave a talk to Roger Kitching's Earthwatch Group at Cape Tribulation.

David Yeates ventured further a field. First stop was a visit to **Brian Wiegmann**'s Lab at North Carolina State University in the USA then on to London and discussions with the Biodiversity and Conservation Unit at the British Museum. En route back to Brisbane there was, of course, a stop-off in Paris including a quick visit to the Museum National D'Histoire Naturelle. On arrival in Brisbane, David could only complain about the heat, it had been 0 degrees in Paris. The sojourn in Brisbane was only brief, he was off to Fiji in February to attend the PACINET meeting on behalf of the CTPM.

Mike Irwin, University of Illinois, ended his sabbatical at the Department with field work in New Caledonia with **Ev Sclinger** and **Don Webb**. The trip yielded a total of 4 therevids (plus many specimens of other groups).

During the last week of February **Varuni Kulasekera** visited the Department. Varuni collected specimens of Nematocera for her research as part of a Sloan Postdoctoral Fellowship at the American Museum of Natural History.

Michael Ryan and **Rieks van Klinken** both recently submitted PhD theses on the species status of the green vegetable bug and the ecology of rainforest Drosophila respectively. **Manon Griffiths** is due to finish her PhD soon and has already a job with Queensland Forestry looking at Red Cedar Tip Moth.



The QM's Mystery Giant Phasmid (see QM text opposite)

Mosquito Control Lab, QIMR

Peter Ryan has commenced his PhD enrolled through the Tropical health Program, University of Queensland. The project is based in the Maroochy Shire which has a problem with *Aedes funereus* and *Ae. multiplex* mosquitoes. The Maroochy Shire

Council has provided substantial funding for a comprehensive investigation into the role these two species have in Ross River virus and Barmah Forest virus transmission. Peter aims to gain an understanding of the developmental biology, breeding habits, seasonal abundance, host feeding patterns, flight range and vector competence of these species. The Council will use this information to focus appropriate control strategies to manage the vector population and reduce the incidence of Ross River and Barmah Forest virus cases.

Congratulations to **Michael Brown** who has been awarded a PhD for his thesis entitled "Evaluation of *Mesocyclops* sp. copepods for the biological control of mosquitoes in north-eastern Australia". Michael has stayed at QIMR having been appointed the Local Authority Research Committee medical entomologist.

Brian Kay, **Lynda Muir**, and **Bruce Russell** attended the 2nd annual meeting of the Dengue Researchers' Working Group held in Charters Towers (N.Qld.) on 27 March. Following research updates and discussion of the Dengue Fever Management Plan, the group went on a Cook's Tour of the unusual *Aedes aegypti* breeding sites in Charters Towers. Since the last epidemic of dengue virus in 1992-3 (in Charters Towers and Townsville), and implementation of the Management Plan, two importations of dengue viruses into Cairns have not resulted in a local outbreak.

Brian Kay will be returning to Vietnam during 12-29 June to complete work on their National Dengue Management Strategy. During July, Brian and **Bruce Russell** will conduct the first training workshop for an AusAID-funded dengue control project in northern Vietnam.

Lynda Muir spent 2 weeks of March in Cairns conducting field trials of new adult *Ae. aegypti* surveillance methods with **Scott Ritchie** from the Tropical Public Health Unit of State Health. **Tonya Watson, Criag Jennings** and **Peter Ryan** are continuing intensive mosquito trapping programs for various species around Brisbane and the Sunshine Coast. With the current outbreak of Ross River virus in these areas, we hope virus isolations from the collections will confirm the vector status of some species and increase our knowledge of the transmission cycles involved.

CSIRO Long Pocket Labs

Mic Julien has been in PNG interviewing applicants for the position of Information Officer attached to the ACIAR funded water weed biocontrol project there. **Tony Wright** is currently travelling through Malaysia and Thailand inspecting progress on his ACIAR funded water hyacinth control projects. Also on an ACIAR project, **Tim Heard** will be visiting Indonesia in May to survey a river system in East Kalimantan for the extent of the *Mimosa pigra* problem.

Peter Room is departing this Saturday for a 2 week visit to ICRISAT in India and IRRI in the Philippines to give a demonstration of virtual plant technology.

Ross Wylie (Qld Forest Service), **Manon Griffiths**, **Rob Floyd** and **Don Sands** are at an advanced stage of organising a workshop on *Hypsipyla* Shoot Borers of Meliaceae (includes the red cedar tip moth). This workshop will be held in Kandy, Sri Lanka, in August sponsored by ACIAR and ODA (UK). An exciting agenda and a wide range of international speakers have been organised.

Wilco Liebregts is in Australia from Fiji for 3 months to prepare for a trip to India to look for a parasitoid controlling the fruit piercing moth. He is also writing up the results of work done in Fiji and Tonga.

The 1996 biological control of tropical weeds course was held in March. There were 18 attendees the largest number yet.

USDA Australian Biological Control Laboratory

The new Director of the ABCL, **Dr. Charles Turner**, arrived in Australia just before the new year. He has now settled in with his family, although the furniture is yet to arrive - but what's four months without furniture for a young family! Charley grew up in Indiana, where he did his undergrad studies at Wabash College, and his postgrad studies at the University of Washington (MS) and the University of California at Berkeley (PhD). Before coming to Australia, Charley was living in the San Francisco Bay area while conducting research at Albany (near Berkeley) on biological control of weeds (particularly thistles) in California and other western states. He also has strong interests in pollination ecology and mite - leaf domatia which he would like to explore further while in Australia.

The headquarters of the ABCL was formerly at

James Cook University, but is now at CSIRO Long Pocket Laboratories in Brisbane, where Charley is based. The ABCL still maintains a lab in Townsville, where **Damien Burrows** is based, but official correspondence should be sent to the Brisbane lab. Our new email address is: cturner@brs.ento.csiro.au.

Alan Fletcher Research Station

Last December, **Graham Donnelly** and **Jon Dodd**, WA Dept of Agriculture, South Perth scouted potential release sites for bruchids for the biocontrol of mesquite near Karratha, WA.

Tim HEARD
Regional Councillor

Queensland Department of Primary Industries Toowoomba

Hari C. Sharma from ICRISAT is spending sabbatical with **Bernie Franzmann** Toowoomba. His major areas of interest are host plant resistance in sorghum and *Maruca testulalis* in pigeon pea. In Australia he is mainly involved with assessing the mechanisms of resistance to sorghum midge in diverse sorghum lines identified in Australia USA and ICRISAT. The objectives of this study are to combine or pyramid different genes for resistance in hybrid parents.

Queensland Department of Primary Industries Indooroopilly

Bob Corcoran and **Pauline Peterson** recently spent a month in Malaysia working on an ACIAR project at the MARDI labs at Serdang. This project, examining the response to quarantine heat treatments of *Bactrocera papayae*, allowed research to commence on this insect (recently introduced into North Queensland) before laboratory colonies of *B. papayae* were available locally.

On their way back to Australia, Bob and Pauline visited **Francis DeLima** at the WADA labs, South Perth to discuss collaborative disinfestation projects on squash and citrus for Japan.

Queensland Department of Primary Industries Rockhampton

Rod Elder has been providing information to growers on spur-throated locust control/ crop management. In Central Queensland this decision-making process has been extremely difficult due to drought and its effect on potential crop yields. Sorghum crops have been the main crops sprayed and with harvesting in progress and locust feeding rates declining the spur-throated locust enquiries should decline. Last winter spur-throated locust swarms in wheat crops did little damage. Surveys by **David Hunter** from the Plague Locust Commission indicate that there are large populations of the locust in the area from Longreach to Tambo. These populations have the potential to be blown into central and southern Queensland cropping areas in spring, oviposit and the resultant generation cause problems next summer/autumn.

Queensland Department of Primary Industries Granite Belt Horticultural Research Station

Frank Page is collaborating in a major interstate HRDC project - Integrated management of weevils, woolly aphid, and powdery mildew in apples. Frank has continued orchard studies of Fullers rose weevil at Stanthorpe. Weevil infestations have been moderate but foliage damage has been light this season. The weevils blocked the small orifices with egg masses in a new microdripper irrigation system in one orchard. Problems continue with a microsprinkler system in a stonefruit orchard every year.

Frank Page, leader of the HRDC project "Biological control of tuber mealybug *Pseudococcus affinis* in apples" says that host specificity tests are continuing at the Alan Fletcher Research Station, Sherwood for the two wasp parasitoids - *Leptomastix epona* and *Pseudaphycus maculipennis*. **Christine Neale** is conducting the tests. Unfortunately *L. epona* is able to parasitise another useful biocontrol agent, the lantana mealybug, so efforts will concentrate on *P. maculipennis*.

Queensland Department of Primary Industries Biloela

Dr **Richard Sequeira** arrives in Brisbane on Wednesday 17 April to take up duties as Entomologist with QDPI at Emerald in central Queensland. Richard did his Masters and Doctorate at Simon Fraser University in Canada, and has done post-docs in both Canada and England. His background is in the population dynamics of aphid/aphid parasites. He will meet Brisbane colleagues and spend several days working with **David Murray** (QDPI Toowoomba) as he travels through to Emerald from Brisbane.

CRC for Tropical Pest Management

Bob Teakle (CRC for Tropical Pest Management), **Steve Reid** (Chemical Engineering, University of Queensland) and **Chris Stafford** (Biorational Resources, Brisbane) were invited lecturers at a workshop on "Biopesticides: Production Process, Application and Prospects for the Future" at the King Mongkut's Institute of Technology, Thonburi, Bangkok. Steve dealt with production issues employing fermentation, Chris with approaches to biopesticides generally, in particular, Bt, and Bob discussed baculoviruses and Bt in the context of IPM.

The Thais are keen to advance in the areas of biotechnology and IPM in agriculture, but are limited by the small size and fragmented nature of farm units. A new facility of the Department of Agriculture in Bangkok, directed by **Uthai Ketunuti**, is mass-producing baculoviruses for use against *Helicoverpa armigera, Spodoptera exigua* and *S. litura*.

Gordon SIMPSON
Regional Councillor

VICTORIA

Keith Turnbull Research Institute
Department of Natural Resources and Environment

Although the Keith Turnbull Research Institute has not featured in *Myrmecia* since February 1992 we are still an active site for entomologists. Most staff of the Institute are involved in weed biological control projects, either in quarantine testing, mass rearing or release and monitoring activities. The European wasp program has recently been re-activated and the Elm Leaf Beetle project has expanded, in parallel with the spread of this new invader.

New institutional arrangements have put KTRI into the Department of Natural Resources and Environment along with our colleagues in the former Agriculture Victoria. However previous plans to corporatise KTRI and three other research institutes of the ex Department of Conservation and Natural Resources to form a new Natural Resources Research Institute are proceeding.

Patrick Honan and **Jacqui Brooks** are currently surveying nests of European wasps in areas where the parasitoid *Sphecophaga vesparum* was released between 1989 and 1994. Disappointingly there is so far no indication of parasitism. Patrick would be interested to have information on the diet of *Vespula* in Australia: further work is to be conducted on trapping and baiting.

David McLaren is now the leader of the pasture weeds section. **David and Raelene Kwong** have conducted a series of workshops on ragwort control and Raelene has been instrumental in a pioneering program involving school students in the rearing and release of biocontrol agents. The Cinnabar moth was chosen as a large, showy, easy to rear insect with suitable educational potential. The Ragwort crown boring moth *Cochylis atricapitana*, is the current centre of attention for mass rearing at KTRI: 50,000 individuals were released at 50 sites in southern Victoria during the 1995-96 season.

Fred Neumann continues to pursue his interests in ecology of forest insects and shares his time between Departmental offices at Kew and KTRI. He is soon to retire but is expected to continue as a government consultant.

Robin Adair, leader of the environmental weeds program, has been quietly guiding the national boneseed biological control project for some years now. There are now promising signs that the black boneseed beetle, first released in 1989, will establish in Victoria and Tasmania. Shipments of the Bitou tip moth and the Bitou tortoise beetle, mass reared at KTRI, have been distributed up and down the NSW coast via **Royce Holtkamp** of NSW Ag and a network of NPWS officers and local councils. Robin is planning to import several more shipments of South African boneseed agents into the KTRI quarantine facility over coming months.

John Weiss, in charge of the horehound biocontrol project, and technical assistant **Emma Scott** have released 18,000 Horehound Plume Moths, *Pterophorus spilodactylus*, in the current season. This insect is doing extremely well at Swifts Creek but not so well in the drier areas of Wyperfeld National Park. John is planning to import a Spanish biotype, better adapted to the Mallee environment, later this year. The horehound workers have been basking in recent national publicity: some stunning closeup photos, including the moth, have featured in *The Australian* and the *Sunday Herald Sun*. Although it is early days yet, John appears to be out of the running for KTRI's 1996 Dork Award. Entomologists are putting on a special effort to ensure that this year's honour is

bestowed upon a member of another scientific discipline.

A poor season for Elm leaf beetle in the USA meant that **Greg Lefoe**'s proposed importation of its parasite, *Erynniopsis antennata*, could not go ahead. However the initial results of trials of Novodor, a BT preparation for ELB control, look quite promising.

Tom Morley is busy setting up a new batch of nursery sites for the Paterson's curse crown and root boring weevils, *Mogulones* spp., and guiding the harvest of beetles from sites set up previously. Blair Grace is developing rearing techniques for Paterson's curse flea beetles and hunting down uncommon plants for quarantine specificity testing.

Rosamond Shepherd has retired and is currently actively organising for the forthcoming conference of the Weed Science Society. **Ross Field** is now with the Museum of Victoria. KTRI provides DNRE's link with the new Co-operative Research Centre for Weed Management centred at the Waite Institute. Arrangements for the new CRC have generated some recent air traffic, **El Bruzzeze** in particular travelling back and forth.

Biocontrol Services Victoria logo

The third issue of *Biocontrol Services Victoria News*, a quarterly newsletter produced by KTRI, has just been distributed to Landcare groups (there are about 670 in Victoria), departmental staff and other readers. The BSV logo (illustrated above) features the black boneseed beetle, a boneseed leaf attacked by the beetle and an undamaged gum leaf. The BSV News is intended to provide timely information on the availability of weed biocontrol agents, their suitability for specific infestations and an overview of current entomology programs. Enquiries can be directed to **Ian Faithfull** on 03 9785 0111. Ian has recently joined the Institute and gained his honours degree in zoology at La Trobe University last year with a project on Victorian native and introduced dung beetles.

Institute for Horticultural Development

DeAnn Glenn has been continuing her work on using *Trichogramma carverae* to control lightbrown apple moth in grape vines. She is planning to participate in the *Trichogramma* symposium in Florence, Italy later this year.

David Bennett and **Sharmeen Tabatabai** are doing their Honours project work at IHD and are being supervised by **Ary Hoffmann** (Department of Genetics and Human Variation, La Trobe University). David's project is titled "Relationship of fluctuating asymmetry and fitness in *Trichogramma carverae*" and Sharmeen is working on "Stress resistance in the Lightbrown Apple Moth"

Peter Williams visited Brisbane 6-8 March for discussions with DPI staff, a wildflower fumigation project meeting and an HRDC Disinfestation Researchers Meeting. Recommendations were made to HRDC regarding support for Papaya Fruit Fly control and disinfestation work, and the need for a strategic research fund to cover work relevant to a range of horticultural industries. Experimental fumigations of wildflowers and insect pests with phosphine have resulted in control of insects with minimal phytotoxic effects to most flowers. Consequently it was agreed that an approach be made to BOC Gases seeking their collaboration in registering phosphine for fumigation of cut flowers.

The thrips expert **Laurence Mound** visited the IHD during 21-22 March. Besides spending sometime in the Victorian Agricultural Insect Collection with **Mali Malipatil** identifying thrips, he gave an informative seminar on thrips biology to IHD staff. He was also keynote speaker in the Western Flower Thrips information session organised for the nursery and flower grower groups. He, accompanied by Mali, **Alison Medhurst** and **James Miller**, visited local nurseries looking for thrips.

Professor **Liu Shu-sheng** from the Department of Plant Protection, Zhejiang Agricultural University, Hangzhou, China, visited **Peter Ridland** and **Nancy Endersby** in April. Liu is working on the project "Improvement of Integrated Pest Management of Brassica Vegetable Crops in China and Australia", supported by ACIAR. The project is a joint venture between the CRC for

Tropical Pest Management (CTPM), Queensland Department of Primary Industry (QDPI), and four institutes in China. The four institutes in China are Zhejiang Agricultural University (ZAU), Zhejiang Academy of Agricultural Sciences (ZAAS), Hunan Agricultural University (HAU), and Zhejiang Department of Agriculture (ZDA).

The project in China is targeted at the vegetable production areas in the Changjiang River valley and is divided into the following four components: 1. Research and development of biological control and biological control-based IPM (by ZAU), 2. Improvement of pesticide application (by ZAAS), 3. Development of action thresholds and practical decision rules (by HAU), and 4. IPM demonstration and implementation (by ZDA).

Nancy ENDERSBY and Robyn COY
Regional Councillors

OVERSEAS NEWS

NEW ZEALAND

Having grown up without the fruitfly, New Zealand horticulturalists tend to go into a bit of a tizz when the word is mentioned - a bit like English politicians and mad cow disease. This is especially so when any one of several species is found by our ever vigilant quarantine service. Recently three specimens, two of the Queensland fruit fly *Bactrocera tryoni* and one of the oriental fruit fly *B. orientalis* were found in the Auckland area and a team of 40 MAF staff worked furiously for several days setting up traps around the district. It is almost certain the flies came in fruit illegally imported by a passenger on an international flight.

This isn't the first time fruitflies have been caught trying to colonise New Zealand. In 1990 three flies were found in one trap near Auckland and last year, one was discovered at Whangarei, 150 K north of Auckland International airport.

So far, we have been lucky and managed to keep these pests at bay, but it is an increasingly difficult task. Queensland growers suffered the establishment of the papaya fruitfly last year. As a result of this infestation, New Zealand cut off imports from the affected area and this has been recently extended to the entire state because the monitoring program did not meet our required standards.

In New Zealand, the highest cost to growers would be the cost of post-harvest treatments but the biggest blow by far would be if they were forced out of international markets.

Landcare Research, Manaaki Whenua Mount Albert Research Centre

Manaaki Whenua has recently appointed a number of young dynamic research scientists in its FRST-funded program Biosystematics of New Zealand Invertebrates based at the Mt Albert Research Centre (Private Bag 92170), Auckland.

The program*s full complement of research scientists is:

Dr M-C LARIVIÈRE (Program Leader, Hemipterist: Auchenorrhyncha & Heteroptera)
Dr JA BERRY (Hymenopterist)
Dr DM GLEESON (Molecular Systematist, Onychophora specialist)
Mrs RC HENDERSON (Hemipterist: Sternorrhyncha, espec. Coccoidea)
Dr JK KLIMASZEWSKI (Coleopterist)
Dr T-K QIN (Acarologist)
Dr WM WOUTS (Nematologist)

Researchers in this program also have curatorial responsibilities for groups in the New Zealand Arthropod Collection and the N.Z. National Nematode Collection. E-mail addresses are as follows:

LariviereM@landcare.cri.nz
BerryJ@landcare.cri.nz
GleesonD@landcare.cri.nz
HendersonR@landcare.cri.nz
KlimaszewskiJ@landcare.cri.nz
QinT@landcare.cri.nz
WoutsW@landcare.cri.nz

John TENQUIST
Overseas Correspondent

PAPUA NEW GUINEA

Emphasis on the Economics of Research Projects at CCRI

The Economics Section at the PNG Cocoa and Coconut Research Institute (CCRI) is a new section and there are three main work programs in which it is involved, along with numerous smaller one-off projects. These are: Economic Evaluation and Monitoring of Research Trials; Cocoa and Coconut Plantation Surveys and Cost of Production Surveys; Economics of Smallholder Cocoa and Coconut Growers.

With ever-increasingly scarce resources, it is essential for all research undertaken to be

Emily Fripp
Head of the CCRI Economics Section.

economically viable and accountable to the growers, who are the main financiers of the research. Two methods of evaluation are used. The most formal technique is Cost Benefit Analysis (CBA), which assesses the stream of discounted costs and benefits of a trial over its lifetime. This model involves large data requirements, such as price and production forecasts for each crop, elasticity of supply for both smallholders and plantations, rate of adoption/uptake of the new technology. For CBA to be performed a trial must have an identifiable and quantifiable output. Many projects fail to meet this requirement especially in the early stages of the trial's life. An alternative evaluation method is therefore used and this is a simple Scoring Model. In this model, trials are given a mark out of ten based on two main factors (five marks to each), the potential usefulness of the information generated by the trial (incorporates factors such as adoptability, lifespan and research costs) and the number of people the research will benefit (incorporates distributional effects).

All research must be placed in an economic context, which includes factors such as price and production trends and forecasts, production by sector, costs of production, impact of pests and disease and quality. A research trial should be in line with prevalent trends in the above factors. From an entomological point of view, the potential impact of major cocoa pests on yield and in causing premature senility is a major concern, whereas for coconut pests complete destruction of the coconut tree is a high possibility. Research is therefore aimed at keeping trees alive and preventing yield loss, using cost effective methods of control that are applicable to smallholders who produce approximately 65% of production of both crops, as well as to the plantation sector.

The evaluation model is nearing completion and economic evaluation of all research undertaken at the PNG Cocoa and Coconut Research Institute will proceed in 1996. The Economics Section is headed by **Emily Fripp**, an economist from Great Britain.

NEWS FROM AFFILIATED SOCIETIES

Entomological Society of Queensland Inc

As announced in the last issue of Myrmecia, the Society's President for 1995, Dr **Elaine Brough**, died in January. At the AGM in March we paid tribute to Elaine. Speakers included **Rachel MacFadyen, Bryan Cantrell, Peter Room, Annice Lloyd Larissa Wilson**, and this correspondent. **Geoff Norton** read a message from Dr **Ed Rajotte** of Penn. State University, USA and tributes received from **Judy Grimshaw** in Mareeba and **Penny Gullan** in Canberra were also read. Many people attended and offered their condolences to **Hamish and Kythie Mitchell**, Elaine's husband and daughter. Elaine will be missed. *Elaine's obituary is in this issue of Myrmecia (see page 6).*

At the AGM **Judy King** was elected president of the Society for 1996, and **David Yeates** of the Department of Entomology, University of Queensland, was elected senior vice president.

At the April meeting **Ahmad Dahlan**, a postgraduate student from Indonesia, discussed techniques he is developing for *in vitro* rearing of the parasitic wasps *Trichogramma dendrolimi* Matsumura and *T. efanescens* Westwood. As part of his research he visited China, and he showed a video recording of their methods of rearing related species.

Judy KING
Representative Councillor

FASTS NEWS

(Federation of Australian Scientific and Technological Societies)

The FASTS Policy Document has been amended following discussions and advice at the FASTS Council meeting in Canberra last November, from feedback and reaction to the original Document launched in June 1995, and because some policies have been adopted by Government and some circumstances have changed with the election of a new national Government. A formal launch at Parliament House in Canberra is being considered by the Executive and Board. Every Member Society will be invited to send representatives, through their President.

A Science Policy for Australia in the 21st Century

Introduction

The FASTS Policy Document sets out a course for Australia to ensure our nation's leadership role in the highly technological 21st century, by building on a secure scientific and technological base. In thirty policies and fifty recommended actions, it deals with the fundamental role of Education, addresses University Research and Research Training, and considers aspects of Government Institutions and National Facilities and of Industry. This second edition of the Policy Document is a significant development on the original Policy launched in June 1995.

The original Policy was prepared under the leadership of the then President of FASTS, Professor **Graham Johnston**, and followed extensive consultation with Member Societies.

FASTS is well constituted to develop and periodically review such a policy document. It is the voice of 40,000 working scientists and technologists, all of whom are grappling with the realities of conducting and applying research in a challenging environment.

The prime aim of FASTS is to foster closer relationships between the Scientific and Technological Societies in Australia, and represent its membership in promoting the role of science and technology in Australia's sustainable well being.

The specific objectives of FASTS are:

a) To facilitate discussions within the scientific and technological community concerning matters of common interest;
b) To enhance communication between the scientific and technological community and Governments, industry and commerce; and
c) To promote understanding among the Australian public of the work done within the scientific and technological community of the nation.

FASTS will continue to pursue these objectives to strengthen Australia's community awareness of the benefits of scientific and technological education and research, and of industries that take advantage of the outcome of such research to build the country's economic strength. The recently elected Federal Government has given evidence of its willingness to implement the long term programs necessary to maintain Australia's scientific and technological performance through the 21st Century. Their pre-election priorities papers "Investing in Tomorrow" (Science, Engineering and Technology), "Reviving the Heartland" (Sustainable Agriculture), "Fulfilling the Promise for Northern Australia" (Northern Development), "For all of Us" (Saving Our Natural Heritage) all rely on a knowledge base that will come from scientific understanding and appropriate technology throughout Australia. We are encouraged that the Government has included so many of our initial policy recommendations in its "priorities" papers. FASTS will use these documents to monitor Government programs and to constructively influence relevant policies and initiatives of Government.

I extend my sincere appreciation of the contributions of many colleagues who participated in the revision of this document, and will welcome suggestions for further revisions.

Joe BAKER OBE, FTSE, MSc, PhD, FRACI
President
FASTS

1. News from the new Government

The impact that the $8 billion cuts will have on science and technology are not yet known, but there are some ominous signs. The Universities are clearly going to be in for a difficult time, and the Government is looking hard at all areas of expenditure.

The rhetoric in Canberra is that since the $8 billion hole was discovered, all pre-election commitments are back on the table. Big programs are prime targets!

That means that the CRC program and the 150 per cent deductibility for industrial R&D are being closely examined. The danger is that in its attempts to cut expenditure, the new Government will axe programs or promises which require long-term commitments to make them viable.

The Space Program is one such program in doubt, in contrast to the Coalition S&T Policy for "a viable space research program". In their policy, the Coalition criticised the previous Government for "funding doubts, disrupted programs and continual reviews."

The interests of the science and technology community need to be represented in a vigorous manner, which is a job for FASTS. We also need to remind the new Government that pre-election promises are taken seriously.

2. The new Ministers

This is a most important time to meet with Ministers. It is now that they are working out how to put policies into action, and when they are most receptive to advice. We are committed to ensuring that Ministers in different portfolios (eg Education, Environment and Primary Industries and Regional Development) are aware of their access to scientific and technological abilities throughout Australia.

FASTS has put several matters to Minister **Peter McGauran**, including a completely new approach to the funding of R&D by industry, and FASTS' views on how responsibilities between ASTEC (now ASETEC), PMSEC and the Chief Scientist should be divided.

We have opened discussion on how scientists and technologists could play a part in the development of Australia, through involvement in the 42 Regional Development Organisations. These matters will be picked up in talks with Senator **Grant Tambling**, Parliamentary Secretary for Regional Development, and Minister McGauran, together.

3. Careers for scientists

The limited career path for younger and middle-ranking Australian scientists existing on "soft" funding is a matter of continuing concern. We have discussed this with Minister McGauran, and recommended that ASETEC undertake a proper examination of the causes and solutions.

One change which would help younger scientists would be to increase the size and duration of grants, and couple this with review process earlier in the term of the grant so that they would have more notice of the extension or termination of programs.

The combined expertise of FASTS' Member Societies would make FASTS a valuable member of the working party looking at this problem.

4. FASTS Annual Council in November

The FASTS Council will meet on November 21 in Canberra. Each Member Society is entitled to send one voting representative. The Minister for Science and Technology, the Hon **Peter McGauran**, has accepted our invitation to address Council.

It is a valuable opportunity for Member Societies to have input in the formulation of FASTS' policy, and to make sure the concerns of ordinary members are understood. It is also a valuable opportunity to network.

Last year we held a very successful dinner for all delegates at a cheap and cheerful Italian restaurant, and our guests included the science advisers to both the Minister and Shadow Minister for Science, and science journalists.

5. Minister McGauran's staff

Newly appointed Chief of Staff is Dr **Michael Selley**, who worked with Senator **Robert Hill** when he was shadow spokesperson for Industry, Science and Education. Dr Selley, a chemist formerly at the John Curtin School and in industry, played a key role in formulating the Coalition S&T policy. We congratulate him on his appointment.

6. Submission to EPAC

FASTS is making a series of submissions to the Economic Planning Advisory Commission (EPAC) for input into the budget. These submissions will be distributed to relevant Ministers and departments for consideration in framing the budget.

7. New policy document

The original FASTS Policy Document was launched in June last year. It became a hit overnight, being highly influential in science policy circles and a recognisable force in the emerging political policies. Almost 1000 copies were distributed.

Now the policy is being revised. Some changes were made by FASTS' Council last year, some

policies have been adopted or become redundant, and some are necessary with the event of a new national Government.

The FASTS Board endorsed the revised version at its last meeting, and this near-final draft will be circulated by email to all Member Societies asking for comment before it goes to press. There are plans to launch the new Policy in mid-year in Canberra.

8. FASTS: the second decade

FASTS has established three new sub-committees under a 19 point plan adopted by the Board. **Graham Johnston** (Professor of Pharmacology at Sydney University, and immediate Past-President of FASTS) will head the Constitution Committee, which has the task of preparing a revised Constitution for consideration at FASTS Council in November.

Ken Baldwin (Senior Fellow Laser Physics, ANU) will head the Policy Committee, which is responsible for drafting a revised Policy Document and guiding it through the review process.

Jan Thomas and I will lead a Membership and Resources Committee, to analyse ways to ensure FASTS has a strong membership and adequate funds to support its activities.

Member Societies will have the opportunity to comment on the outcomes.

9. Chief Scientist

A proposal to extend the term of the current Chief Scientist, Professor **Michael Pitman**, has gone forward from the Minister for Science and Technology to the Prime Minister. This would be a stop-gap appointment, effective until the Government approves and funds Minister McGauran's plans to give the position new status as a statutory body. Such a move would require legislation, but the appointment process for Professor Pitman's successor could begin as soon as approval came through. Professor Pitman leaves for overseas early in May, and is expected to be absent until August.

10. New Secretary

I am delighted to welcome Dr **Chris Easton** of the Research School of Chemistry at the ANU to this important role. Chris takes over from **Graham Heath**, also of the RSC at ANU. I would like to thank Graham for his contribution to FASTS, particularly in helping make the first Policy Document a reality.

11. Media coverage

FASTS is increasingly being mentioned in articles on science policy and related matters. In April, FASTS featured in the Sydney Morning Herald, the Campus Review and the Canberra Times; with articles on the Australian Mathematical Sciences Council appearing in the Age and the Australian.

It is a sign of the increasing acceptance of FASTS as a major player in science policy matters.

Joe BAKER
President
FASTS

ELECTRONIC NEWS

Alastair Drake, of the Australian Defence Force Academy in Canberra, has sent a list of his favorite URLs for the interest of members. I have added a few at the end as well and I am sure there are many others that will be of interest so feel free to forward any worthwhile addresses to me for advertising in *Myrmecia*. Mind you, if you have any reasonably comprehensive search engine you have probably already found these and others.

Alastair writes:

"In my own area of insect migration, there are now two sites that I do think would be worth mentioning in *Myrmecia*:-

"Movement and dispersal of biota", at http://www.inhs.uiuc.edu/cee/wwwtest/96NCR148/migr_dis.html. (This indexes a number of sites presenting information on migration of insects and other taxa of importance to agriculture or human health, mainly in North America. It also incorporates an on-line magazine, "The Migrant". This site seems to be developing as a meeting point for those interested in insect migration and aerobiology.

"CTPM Modelling projects" at http://www.modeling.ctpm.uq.edu.au/. (There seems to be a lot of good stuff on this. This is beginning to look like a significant attempt by an applied research organisation to disseminate its findings via the Internet, by making results and models available on line to potential users. **Wayne**

Rochester's *Helicoverpa* migration pages, for example, allow users to run their own trajectory simulations for specific times and sets of assumptions about moth behaviour. My USDA colleagues here have been very impressed with this Aussie development!

In addition, readers might be interested in two well presented educational sites that coordinate cooperative school science projects on Monarch butterfly migration through North America: "Journey North: A global study of wildlife migration" at http://www.ties.k12.mn.us/~jnorth/ and "Monarch Watch" at http://monarch.bio.ukans.edu/ .

Myrmecia readers will probably also find the Australian Bureau of Meteorology site useful. This now incorporates recent observations and satellite images, current synoptic charts, current forecasts and warnings, and some climate data. Because so much information is being produced continually and immediate dissemination is a priority, meteorological sites are among the most useful and best developed on the WWW. "sci.geo.meteorology FAQ" at http://www.ucar.edu/dss/faq/ is a handy index to sites offering weather information from all around the globe."

Here is a list of URLs combined from Alastair's and the editor's.
UQ Entomology (and list to other entomology sites)
http://www.uq.edu.au/entomology/home.html
(Excellent construction with photos of most of the staff and postgrads (except for Craig Maddox it is noted).

Australian Cotton Research Institute
http://www.mv.pi.csiro.au/

UNE Insect Pest Management Group (Gregg etc.)
http://www.une.edu.au/~agronomy/AgSSIPests.html

CRC Tropical Pest Management
http://www.ctpm.org/

CTPM Modelling projects
http://www.modeling.ctpm.uq.edu.au/

CSIRO Division of Entomology
http://www.ento.csiro.au/

CSIRO Entomology (gopher)
gopher://spider.ento.csiro.au/

Entomology at Texas A & M University
http://entowww.tamu.edu/
Univ. of Kansas Monarch Watch
http://monarch.bio.ukans.edu/

Entomology at Colorado State University
http://www.colostate.edu/Depts/Entomology/ent.html

Entomology Index of Internet Resources
http://www.ent.iastate.edu/List/

Dept of Entomology, The Natural History Museum, London
http://www.nhm.ac.uk/science/entom/index.html

Dept of Crop Protection, University of Adelaide, Waite Campus
http://www.waite.adelaide.edu.au/Crop_Protection/Crop_Protection.html

The Entomological Society of Victoria
http://vicnet.net.au/~vicento/vicent.htm

Cornell University Insect Collection
http://www.cals.cornell.edu/dept/entom/type/html.doc/hp.htm

Bishop Museum, Honolulu
http://www.bishop.hawaii.org/

CABI International
http://www.cabi.org/

Smithsonian Institute Natural History Home Page
http://nmnhwww.si.edu/nmnhweb.html

Smithsonian Diptera Page
http://www.nmnh.si.edu/entomology/Diptera/

Ohio State University Insect Collection
http://iris.biosci.ohio-state.edu/inscoll.html

Entomological Society of America Home Page
http://www.entsoc.org/

Phasmid Study Group
http://www.ex.ac.uk/~gjlramel/psg.html

Guide to Collecting Permits for Australia
http://155.187.10.12/anbg/collecting.html

Natural History Museum of Los Angeles
http://www.lam.mus.ca.us/webmuseums/

Society for the Preservation of Natural History Collections
http://iscssun.uni.edu/vidal/spnhc/

DELTA Home Page
http://muse.bio.cornell.edu/delta/

Australian Nature Conservation Agency (ANCA) Home Page
http://155.187.50.41:8080/

International Code of Zoological Nomenclature
http://www.york.biosis.org/zrdocs/iczn/code.htm

It should be noted that NSW Agriculture has a home page, but nobody can get to it from outside the Department - useful hey?

COMING EVENTS

AUSTRALIAN ENTOMOLOGICAL SOCIETY 27TH AGM AND SCIENTIFIC CONFERENCE

Lincoln College, Christchurch
New Zealand
22 - 27 August 1996
in conjunction with
The Entomological Society of New Zealand

The 27th Scientific Conference of the Australian Entomological Society will be a joint conference with the Entomological Society of New Zealand at Lincoln College, Christchurch 22-27 August 1996. Committees have been formed both in New Zealand and Australia to initiate planning. Approaches are being made both to FASTS and SCARM to assist members to attend, particularly student members.

Registrations forms were distributed in the last issue of *Myrmecia* but further copies can be obtained from the Secretary of the Australian Entomological Society at the address given on the inside front cover.

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centre for Biodiversity & Bioresources

Centre for Biodiversity and Bioresources
A Commonwealth Key Centre of Teaching and Research
ADVANCED PROGRAM IN BIODIVERSITY ASSESSMENT
Introductory Workshop: Recent developments in Biodiversity Assessment
Macquarie University
22-22 November 1996

Biodiversity assessment is vital to environmental monitoring, natural resource management and conservation evaluation and there is a major need for rapid and effective methodologies, technologies and statistical approaches for identifying and quantifying biodiversity. many of these are so recent that they are unfamiliar to students, professionals and managers. The Key Centre, a leader in biodiversity assessment, is offering a three day workshop that for the first time brings together these exciting new developments in a program designed specifically for the end-user.

Aims of the workshop

- **Explore** the multilayer structure of biodiversity (populations, communities, landscapes)
- **Introduce** new methods, many recently developed by the Key Centre, to assess biodiversity at the genetic, species and ecosystem levels.
- **Demonstrate** the potential of these methods for different end-users by examining case studies
- **Identify** the needs of the end-users for subsequent Technical Workshops.

Participants

The workshop is designed to benefit those who study biodiversity, especially students, professionals and managers who interpret and apply biodiversity data. We will assume minimal previous knowledge or experience. The Program is designed to help participants identify the Technical Workshops that will further their goals.

Technical Workshops

The Technical Workshops will be held in early 1997. Training will be hands-on and intensive and will cover a range of molecular, microbial, arthropod/invertebrate, field and statistical methods. Participants will select combinations of technical workshops according to their specific needs.

Cost

$450.00, includes lunches, morning/afternoon teas and barbecue.

Registration and Further Information

Robyn Delves
Centre for Biodiversity and Bioresources
School of Biological Sciences
Macquarie University,
Sydney NSW 2109
Ph: (02) 850 8153
Fax: (02) 850 9237
Email: abeattie@rna.bio.mq.edu.au

BIOLOGY AND IDENTIFICATION OF COLLEMBOLA (SPRINGTAILS)

FEBRUARY 3-6 1997

Australian National Insect Collection

Organised by the Australian National Insect Collection, CSIRO Division of Entomology, Canberra, Australia

Introduction

Collembola are one of the most abundant and widespread groups of soil arthropods and occur in native and disturbed areas playing a crucial role in organic matter decomposition. Their value as "bioindicators" is just beginning to be appreciated and they have proved useful in toxicity testing of soils in the laboratory and in assessing effects of agricultural chemicals on non target organisms and tillage in the field. In natural systems they have been useful in quantifying the effect of threatening processes such as burning, in measuring success of rehabilitation and in ranking sites as to their conservation value.

Course Aims

The course is designed to:

* Give participants a broad overview of the biology of Collembola
* Give participants instruction in the collection preparation, preservation and curation of Collembola specimens
* Give participants instruction in the identification of Australian Collembola to family and genus

The cost is likely to be about $500.

For more details, please contact
Penny Greenslade
Tel: 06 246 4121
Fax: 06 246 4000
Email: pennyg@ento.csiro.au)

The 7th Arbovirus Research in Australia Symposium/ 2nd Mosquito Control Association of Australia Conference.

Ocean Blue Resort, Surfers Paradise, Gold Coast, Australia, 25 - 29 November 1996.

The conference centres around arboviruses of humans and livestock and aims to highlight topical issues such as emerging diseases and recent innovations in vector management. The 5 day program will cover entomological issues such as vector biology, mosquitoes as vectors, vector surveillance, vector control innovations and environmental impacts, and waste water management in the first 2 days; plenary sessions dealing with broad topics of global relevance, such as emerging diseases, will be held on the 3rd day; and days 4 and 5 will cover the epidemiology, virology, diagnostic, clinical medicine and molecular biology aspects of arboviruses.

For further information and registration forms contact the Convenor:

Brian Kay,
Queensland Institute of Medical Research,
PO Royal Brisbane Hospital, QLD. 4029.
Phone: 07- 3362 0350
Fax: 07- 3362 0106
E-mail: lyndam@qimr.edu.au

INTERNATIONAL WORKSHOP ON *HYPSIPYLA* SHOOTBORERS IN MELIACEAE

Kandy, Sri Lanka

20-23 August 1996

Details: *Myrmecia* **32**(1): 27

Contact:

Ms Manon Griffiths
c/- Queensland Forest Service
PO Box 631,
INDOOROOPILLY QLD 4068

AUSTRALIA
Tel: 61-7-3896-9778
Fax: 61-7-3896-9628
Email: griffith@qfslab.ind.dpi.qld.gov.au

NZ Plant Protection Society Conference
August 13-15th 1996
Nelson, New Zealand

Details: *Myrmecia* **31** (4): 39

Further information:
Dr Max Suckling
HortResearch
PO Box 51, Lincoln, New Zealand
Fax +64-3-3252946
ph +64-3-3256351 3380# (direct dial)
Email: sucklingm@hort.cri.nz

9TH INTERNATIONAL
AUCHENORRHYNCHA CONGRESS
Sydney, Australia
17-21 February 1997

The Second Circular and Registration Form for this conference is now available. All subscribers to TYMBAL, the Auchenorrhyncha Newsletter, will be sent a copy, as will all respondents to the First Circular. Copies can also be obtained from:
Australian Convention and Travel Services
GPO Box 2200
Canberra ACT 2601
Australia
Ph: (61-6)(06) 257 3299
Fax: (61-6)(06) 257 3256
Further information:
Dr M.J. Fletcher
NSW Agriculture
PMB 10
RYDALMERE NSW 2116
email: fletchm@agric.nsw.gov.au

ANIC TRAINING COURSES

The Australian National Insect Collection, CSIRO Division of Entomology will be conducting the following training courses during 1996 and 1997.

ANIC Technical Training Course
9-13 September 1996

For technicians involved in the collection, preservation and curation of entomological specimens for research purposes. Course Fee: $500

Thrips Identification Course
21-25 April 1997

A five-day course on the biology and identification of thrips will primarily familiarise participants with basic methods of collecting, slide preparation and identification. The course will also provide an introduction to thrips biology, trapping for pest management and DNA techniques for studying variation within and between species. Course Fee: $1,000

Whiteflies Identification Course
3-6 December 1996

An identification course on whiteflies (HEM: Aleyrodidae) and their natural enemies. The course will be conducted by experts from the ANIC and CABI's International Institute of Entomology (IIE). The course will cover basic biology and identification of whiteflies with particular emphasis on pest species and the Australian fauna. Course Fee: $1,000

All these courses will be held at the Division of Entomology in Canberra. Course fees do not include food and accommodation. Reasonably priced accommodation can be arranged at the participant's request.

Information from: The Collection Manager
ANIC, CSIRO Division of Entomology
GPO Box 1700
CANBERRA ACT 2601, Australia
Phone: (06) 246 4036
Fax: (06) 246 4000
Internet: geoffc@ento.csiro.au

ELEVENTH AUSTRALIAN WEEDS CONFERENCE
MELBOURNE UNIVERSITY
30th Sept - 3rd Oct. 1996

Details: *Myrmecia* **31**(4): 39
The conference is being organised by the Weed Science Society of Victoria.
Further information:
Chris Knight
Promotions Officer
Australian Weeds Conference
PO Box 987
FRANKSTON VIC 3199
Phone: 03 96192603
Fax: 03 96191756

Xth INTERNATIONAL CONGRESS OF ACAROLOGY
6-10 July 1998
Canberra, Australia

Further Information:
Dr Bruce Halliday
Principal Research Scientist (Acarology)
CSIRO Division of Entomology
GPO Box 1700
CANBERRA ACT 2601
AUSTRALIA
Phone: (06) 246 4911
Fax: (06) 246 4000
Email: bruceh@ento.csiro.au

ADVANCE NOTICE

Fourth Conference of the International Society of Hymenopterists.
Canberra, AUSTRALIA
6-11 January 1999
Details: *Myrmecia* **32**(1): 28
The Conference address and contact is:
4th Conference of the International Society of Hymenopterists,
c/o CSIRO, Division of Entomology,
P.O. Box 1700
Canberra, ACT 2601
AUSTRALIA
fax: 61-6-246.4264
email: iann@ento.csiro.au.

SOUTHERN CONNECTION

II CONGRESS
"Southern Temperate Biota and Ecosystems: Past, Present and Future."
6-11 January 1997
Chile, South America

Details: *Myrmecia* **31**(4): 40

Further details:
Ignacio Fuenzalida
Local Organiser
II Southern Connection Congress
Depto. de Biologia - Facultad de Ciencias
Universidad de Chile, Casilla 653
Santiago, CHILE
Fax: 65 (2) 271 2983
Email: Southern@abello.dic.uchile.cl
or Botanica@abello.dic.uchile.cl

Please include your name, postal address, fax, telephone number and email address as appropriate.

A SPECTRUM OF MICROBIOLOGY
International Meeting and Exhibition of the Australian and New Zealand Societies for Microbiology
CHRISTCHURCH, NEW ZEALAND
29 September - 4 October 1996
Details:
Tour Hosts Pty Ltd
Phone: (61-2) (02) 262 2277
Fax: (61-2) (02) 262 3135 or 262 2323
Email: TourHosts@tourhosts.com.au

INTERNATIONAL CONFERENCE "TECHNOLOGY TRANSFER IN BIOLOGICAL CONTROL: FROM RESEARCH TO PRACTICE"
Montpellier, France
9-11 September 1996

Details: *Myrmecia* **31**(3): 26

For further information contact:
F. Bigler, Secr. General IOBC
Swiss Federal Research Station
Reckenholzstr. 191
8046 Zurich
Switzerland.
Fax: (33) 67 04 75 99

XIVth International Congress for Tropical Medicine and Malaria

"New Goals for the 21st Century"
Nagasaki Japan, 17-22 November 1996

The First Circular of the above Congress is now available. Further information is available from:
Ms S. Tominaga
XIVth ICTM Secretariat
c/- The Institute of Tropical Medicine
Nagasaki University
1-12-4, Sakamoto
Nagasaki, 852 JAPAN

NEW PUBLICATIONS

BIOLOGY OF AUSTRALIAN WEEDS
Edited by R.H. Groves, R.C.H. Shepherd and R.G. Richardson
314 Pages, $59.50 plus $10.00 postage in Australia
ISBN 0 646 25956 3
The following information comes from the advertising blurb distributed by the publisher and is not a review of the publication.

Sixteen of Australia's worst weeds are reviewed in this newly published book. These plants are responsible for significant land degradation and threaten farms, waterways and park land. They contribute significantly to Australia's weed costs of over $3 billion per year.

"The Biology of Australian Weeds" is based on a series of papers by some of Australia's foremost weed scientists, that were first published in the Journal of the Australian Institute of Agricultural Science and more recently in Plant Protection Quarterly. The papers, published over a period of 14 years, have been brought up to date by either the original authors or by other highly qualified researchers. The text was edited by three of Australia's leading weed scientists, Richard Groves, CSIRO Division of Plant Industry, Canberra and Ros Shepherd and Bob Richardson both from the Keith Turnbull Research Institute, Frankston.

Each weed is reviewed in considerable detail and information on its name, description, history, distribution, habitat preferences, growth and development, reproductive processes and hybridisation, population dynamics, importance in Australia, legislative restrictions and methods of management are examined in detail.

Production of the book was supported by the Council of Australian Weed Science Societies. It is available directly from the publishers:
RG and FJ Richardson
PO Box 1108
Frankston Vic 3199
Ph: 03 9787 3804
Fax: 03 9775 4245
Email: r.richardson@dce.vic.gov.au

NOTICES

Queensland Insect Breeders Association Inc.

The formation of Queensland Insect Breeders Association (QIBA) arose out of concern by amateur and professional entomologists of issues arising from the 1994 amendments to the Queensland Fauna Protection Act.

The association was formed in July 1995, incorporated January 1996, with the following aims and objectives adopted:

* To be a representative body for entomologists;
* To promote interest in our fauna as a vehicle for research, conservation and management;
* To liaise with other entomological organisations, government departments and special interest groups.

Membership comprises both professional and amateur entomologists including commercial and hobby breeders. Members are welcome from all State in Australia.

Membership costs per annum are:
$50.00 commercial
$20.00 ordinary

Members are informed monthly of all issues raised and adopted by QIBA via regular newsletters and also copies of any relevant

documents compiled by the association.

Meetings are held in Cairns every 3rd Sunday of each month. At this stage we are seeking input from all individuals who share an interest or have common concerns in the current and future management of our invertebrate fauna.

Membership applications can be obtained by writing to:

Secretary
Queensland Insect Breeders Association
PO Box 26, INNISFAIL Q 4860

BUG ZAPPERS

Several times over the last couple of years there has been on-line discussion of the merits, and lack thereof, of so-called "bug zappers." Those interested should take a look at the latest issue of ENTOMOLOGICAL NEWS [107(2): 77-82]. The following is their abstract:

"Our survey of insects electrocuted during routine use of electric insect traps revealed only 31 biting flies, a minute proportion (0.22%) of the 13,789 total insects counted. In contrast, species from 12 orders and more than 104 nontarget insect families, including 1,868 predators and parasites (13.5%) and 6,670 nonbiting aquatic insects (48.4%) were destroyed. The heavy toll on nontarget insects and the near absence of biting flies in catches suggests that electric insect traps are worthless for biting fly reduction - and probably are counterproductive - to homeowners and other consumers."

Though the article is written with a flagrant emotional overtone, the numbers presented are rather interesting to cogitate upon for a few moments. This would be a good article to send off to various gardening, homeowner, sporting, and environmental magazines and newspapers to help rid our countryside of these miserable lamps.

Cicadellidae, Chironomidae, and Trichoptera really took it in the shorts, with these three groups representing nearly 63% of the kill (this study was at Newark, Delaware).

In extrapolations, the authors calculate that based on 4 million bug-zappers (4 years worth of approximate sales in the U.S.) used for 40 nights each summer, that in excess of "71 billion nontarget insects are destroyed in the U.S. each year by misinformed homeowners." Using other figures, they derive an estimate of 350 billion insects killed per year.

Anyway, checkout the article and forcefeed it to your local extension agent and garden store.

Paul J. JOHNSON
per John CLANCY

University Entomologists
PLEASE NOTE

A list of Postgraduate Projects in Entomology is now being compiled for publication in *Myrmecia*. Please send details of Masters and PhD projects currently being undertaken in your University or other Australian institution to your local Regional Councillor by 19 July 1996 who will then forward their local list to the Secretary for final collation.

Details required are: Name of Student, Name of Supervisor, Title of Project, Degree and Name of Institution.

Please start getting your list together now!

Gary TAYLOR
AES Hon. Secretary

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY RESEARCH GRANTS 1996

'Grants to encourage the advancement and dissemination of entomological knowledge, particularly in relation to Australian insects and allied forms'

The Executive takes pleasure in calling for applications for The Australian Entomological Society's Research Grants for 1996

Total funds available will be in the order of $3000. Applications may be submitted for such items as travel, equipment or technical support.

The grants are primarily for small, short - term projects and will be available only to financial members of the Society of at least 12 months standing. Groups will be eligible provided that the primary researcher is a member.

Applications may be for any amount up to $1000, but remember that small, short-term projects which enable a diverse range of work to be funded may be favoured.

Three copies of your application need to be submitted to the Secretary of the Society by the closing date of 5 July 1996. Please provide stamps or a postal order to cover the cost of returning applications, if required.

The President of the Society will appoint and convene a Selection Committee to allocate and administer the grants. Successful applicants will be announced at the Society's Annual General Meeting on 24 August 1996.

A report to the Executive in a form suitable for publication in *Myrmecia* will be required by the end of 1997.

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY

RESEARCH GRANTS 1996

APPLICATION FORM

Please find attached three copies of my submission for an AES Research Grant for 1996

Name: . . . . . .

Contact Address . . . . . .

Telephone number: . . . . . Facsimile number: . . . . . .

Title of Entry . . . . . .

The following details are required in the application:

* Background
* Objectives
* Methodology
* Expected outcomes
* Detailed budget, including resources (eg. vehicle, lab, equipment) provided by the applicant or from other sources
* Expected duration and time devoted to the project

Return completed form with three copies of application, by 5 July 1996, to:

Dr Gary Taylor
AES Honorary Secretary
c/- Dept of Crop Protection
Waite Campus, University of Adelaide
Glen Osmond SA 5064

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY
INSECT ILLUSTRATION COMPETITION
1996

'A Competition to encourage and recognise high standards of entomological illustration'

The Australian Entomological Society invites unpublished entries to this competition which will be judged and displayed at the Society's Annual General Meeting and Scientific Conference to be held at Lincoln University, Christchurch, New Zealand, 22-27 August 1996.

The competition is open to members and non-members of the Society.

Entries, up to three per entrant, must be either black and white or coloured, whole-body (dorsal or lateral views) taxonomic illustrations of insects or allied forms, such as shown in *The Insects of Australia*. The mounted illustrations should not exceed 21 x 30 cm (approx. A4 size) and must be suitable for reproduction after reduction of 50%. Postal entries must be carefully packed and include stamps or a postal order sufficient to cover the cost of return postage, where necessary.

Entries will be reviewed by a Judging Committee.The Society shall have the right to display selected works in public and to reproduce the illustrations, with appropriate acknowledgement, on Society goods which it sells, and in magazines, for a fee.

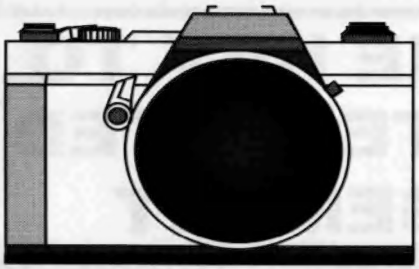
Categories: Student Section (1) Colour (2) Black and White
Open Section (1) Colour (2) Black and White

Prizes in each category will be: First $300, Second $150, Third $50

Each entry is to be accompanied by the following information:
*Name of entrant, *Postal Address, *Current enrolment details (if a student), *Category of entry/entries, *Scientific name of Insect.

Forward entry/entries and above information to:
Dr Rowan Emberson, Centre for Continuing Education, PO Box 84, Lincoln University, Canterbury, New Zealand or deliver at registration.

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY



INSECT PHOTOGRAPHIC COMPETITION

'A competition to encourage photographic expertise in the field of entomology'

The Australian Entomological Society invites unpublished or not previously displayed entries to this competition which will be judged and displayed at the Society's Annual General Meeting and Scientific Conference to be held at Lincoln University, Christchurch, New Zealand, 22-27 August 1996

The competition is open to members and non-members of the Society.

Entries (prints only) cannot be greater than 20 x 25cm, with the name and address of the entrant on the back. Postal entries must be carefully packed and include stamps or a postal order sufficient to cover the cost of return postage, where necessary.

Categories:
Black-and-White and Colour
* Insects,
* Micrographs
* People in entomology

Entries will be reviewed by a Judging Committee. The Society shall have the right to display selected works in public and to reproduce the photographs, with appropriate acknowledgement, on Society goods which it sells, and in magazines, for a fee.

Entries can be posted to the convenor or delivered at registration.

Prizes in each category will be: First $200, Second $100, Third $50

Each entry is to be accompanied by the following information:
* Name of entrant, *Postal Address,
* Category and title of entry/entries, *Scientific name of insect, where applicable.

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THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.

FORM OF NOMINATION FOR MEMBERSHIP

To be returned to:
Dr G. Taylor, AES Secretary, c/o Dept. of Crop Protection
Waite Campus, University of Adelaide, Glen Osmond SA 5064

We the undersigned

Proposer: . . . . . (print name here) . . . . . (signature)

Seconder: . . . . . (print name here) . . . . . (signature)

being financial members of the Society, propose the following for membership of The Australian Entomological Society Inc.:

Title . . Initials . . Given Name . . . . . Family Name . . . . . .

of (Address): . . . . . .

. . . . . .

Tel: . . . . . Fax: . . . . . .

Email: . . . . . Degrees, etc: . . . . . .

Occupation or Appointment: . . . . . .

Interests, experience, and publications in entomology for publication in the News Bulletin *Myrmecia* (please attach brief resumé):

I accept nomination and undertake if elected to abide by the rules of the Society, and to pay annual subscriptions by the date prescribed.

Signature: . . . . . **Date:** . . . . . .

For **1996**, new student/retired members - $22.50; new full members - $45.00. **Payment with nomination required.**

. . . . . .

(EXECUTIVE USE ONLY)

Nom. received: . . . . . Nom. considered at meeting: . . . . . .

Payment received: . . . . . Elected at meeting: . . . . . .

Membership type: . . . . . Applicant advised: . . . . . .

REGIONAL COUNCILLORS

Queensland
Dr T.A. Heard
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Indooroopilly Qld 4068
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Fax (07) 3214 2885
Email tim@brs.ento.csiro.au

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Australian Capital Territory

(vacant)

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Fax (03) 800 3521
Email:
endersbyn@knoxy.agvic.gov.au

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Abbotsford Vic 3067
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Fax (03) 416 0475

South Australia
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Primary Industries SA
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Fax (08) 303 9542
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frost.bill@wpo.pi.sa.gov.au

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University of Adelaide
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Fax (08) 379 4095
Email:
mkeller@waite.adelaide.edu.au

Tasmania
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Forestry Commission
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Hobart Tas 7001
Ph (002) 33 8231
Fax (002) 33 8270

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Dr D.F. Cook
WA Dept of Agriculture
Baron-Hay Court
South Perth WA 6151
Ph (09) 368 3250
Fax (09) 367 2625
Email:
DavidC@apb.agric.wa.gov.au

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Mr C.G. Wilson
Berrimah Farm
GPO Box 990
Darwin NT 0801
Ph (089) 89 2211
Fax (089) 89 2181

REPRESENTATIVE COUNCILLORS

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PO Box 631
Indooroopilly Q 4068
Ph (07) 877 9716
Fax (07) 371 2217

Entomological Society of New South Wales
Dr A.D. Clift
BCRI, PMB 10
Rydalmere NSW 2116
Ph (02) 683 9777
Fax (02) 630 4475

Entomological Society of Victoria
Mr P. Carwardine
2a Victoria Rd
Malvern, Vic 3144
Ph (03) 571 8958 (AH)

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